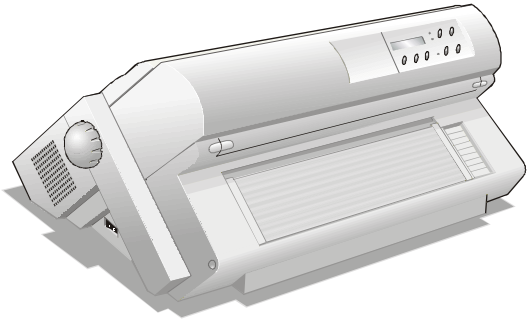
9100

User Manual



Compuprint

Compuprint Information

Thanks *for choosing this printer.*

Your printer is a reliable working equipment that will be very useful in your daily job.

Our printer have been designed to be compact and respectful of the work environment. They offer a wide range of features and multiple functions that confirm the high technological level reached by the Compuprint S.p.A .

To maintain these printing performances unchanged in the long run, Compuprint has developed specific consumable accessories for each printer type (for example: ribbon cartridges for dot matrix printers, toner and OPC cartridges for laser printers, bubble ink jet cartridges for inkjet printers) that assure an excellent operation with high printing quality level reliability.

Compuprint recommends to use only its ***original consumables with original packaging (identified by its holographic label).*** *In this way, a proper use of the printer at quality level unreliability stated in the product characteristics can be assured. All typical usage problems related to not certificated consumables may be avoided, such as an overall quality print level degradation and ,often, the reduction of the product life due to the fact that the proper print heads working conditions, OPC cartridge and other printer parts are not assured.*

Moreover, Compuprint does not only certify its consumables in terms of working conditions but also carefully controls their compliance with the international standard rules concerning:

- *no cancerous materials;*
- *no inflammability of the plastic materials;*
- *other standards*

Compuprint advices the customers not to use products for which the compliance to this safety rules are not warranted.

Finally seek your dealer or contact a Compuprint office and be sure that are provided you the original Compuprint consumables.

FCC Notes

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occurin a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver to outlets on different circuits.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could avoid the user's authority to operate the equipment. The use of a non-shielded interface cable with the referenced device is prohibited. The length of the parallel interface cable must be 3 meters (10 feet) or less. The length of the serial interface cable must be 15 meters (50 feet) or less..

Canadian D.O.C. Radio Interference Regulation

This digital apparatus does not exceed the Class B limits for radio noise emission from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de classe A prescrites dans le règlement sur le brouillage radioélelctrique édicté par le ministère des communications du Canada.

EEC Regulations

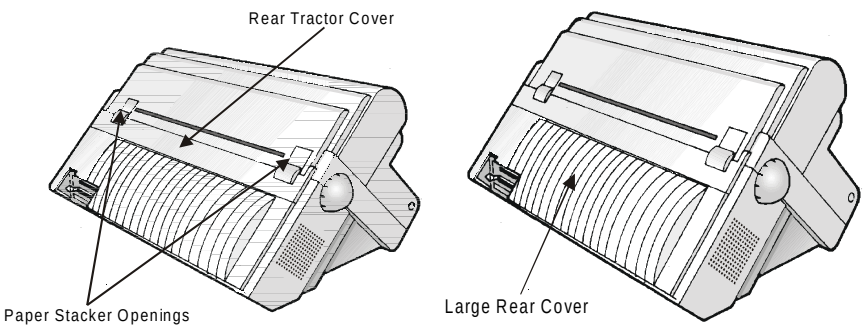
This equipment conforms to the EEC Directive 89/392 (the sound pressure, measured according to ISO 7779, does not exceed 70 dBA).

Safety Information

A. Never remove any printer cover unless it is necessary for the installation of a printer accessory and expressly described in this manual.

B. Please retain the printer covers in a safe place because they should be reinstalled if you decide to remove any printer accessory.

The following areas of the printer should be covered for safety reasons:



The above openings must always be protected with their cover when the corresponding option is not installed. Do not touch inside and do not insert any object into these openings or into the gears.

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Getting to Know Your Printer

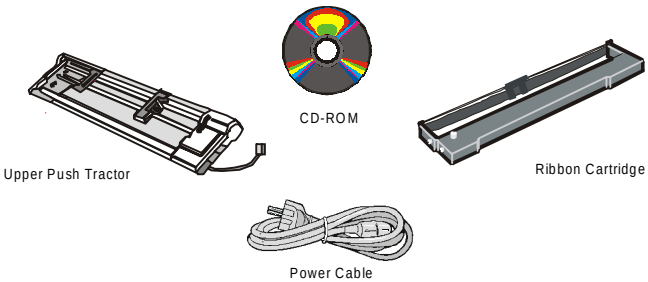
Printer Features

- 18 Needle Print Head
- 136 columns
- Draft printing at 1100 cps, LQ printing at 240 cps, DP Text printing at 480 cps
- IBM Proprinter XL III, Personal Printer 2381 and EPSON ESC/P series emulations
- Multiple copies (1 original and 7 copies)
- Automatic paper path selection
- Easy operability via operator panel setup and S/W commands
- Optional Color Kit
- Optional cutter
- Usage of all specific features by means of the Specific Software Driver which is applicable to the most popular S/W Packages
- Plug & Play capability for Windows 95/98
- Bi-directional IEEE 1284 parallel interface and standard serial RS-232/C and RS-422/A interface

Unpacking Your Printer

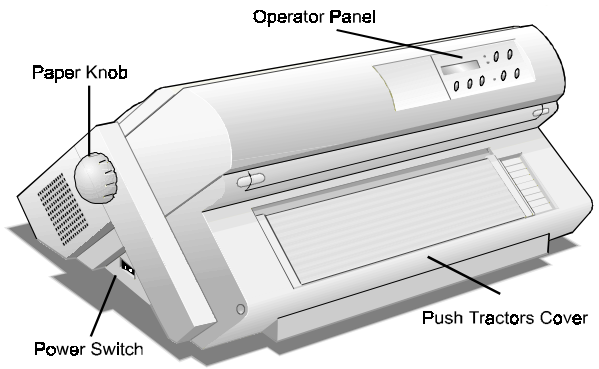
Together with the user manual, the following items are included in the box:

Notify any damage to your supplier.

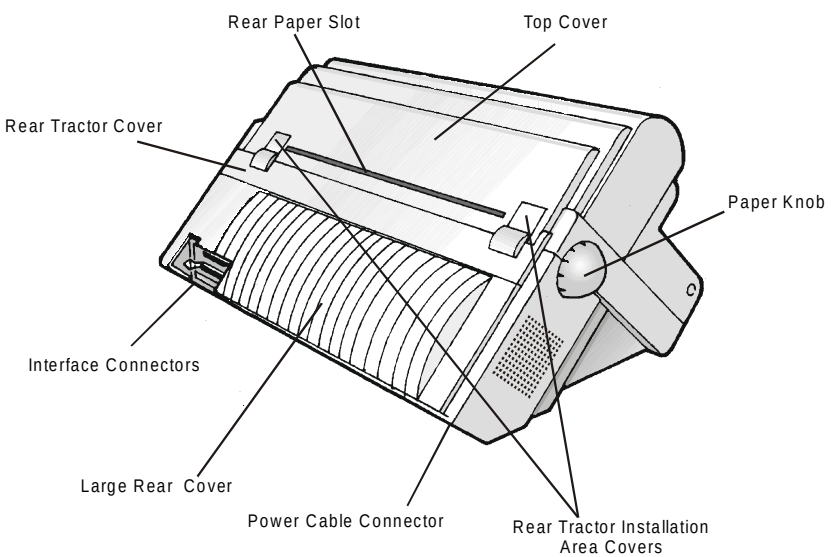


Printer Parts

Front View



Rear View



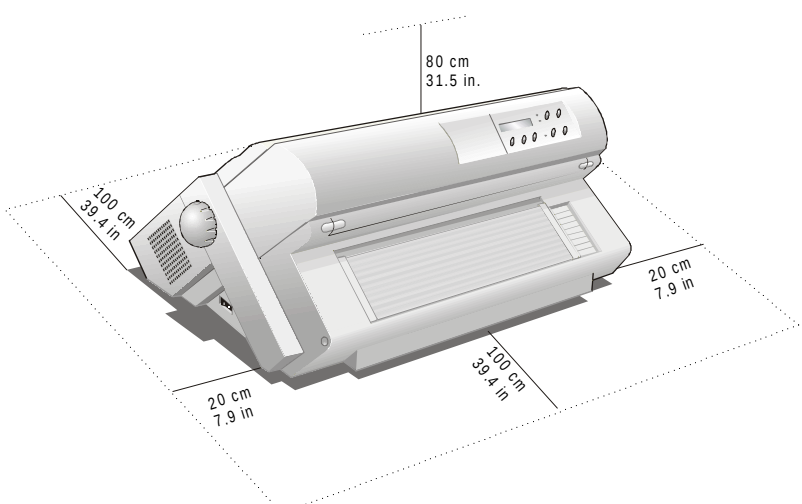
Setting Up Your Printer

Choosing a Suitable Location

Consider the following points when you choose the location for your printer:

- The distance between the printer and the host computer must not exceed the length of the interface cable;
- The location must be sturdy, horizontal and stable;
- Your printer must not be exposed to direct sunlight, extreme heat, cold, dust or humidity (see "Printer Specifications" later);
- You need an AC power outlet compatible with the plug of the printer's power cord. The voltage of the outlet must match the voltage shown on the printer's Rating Plate;

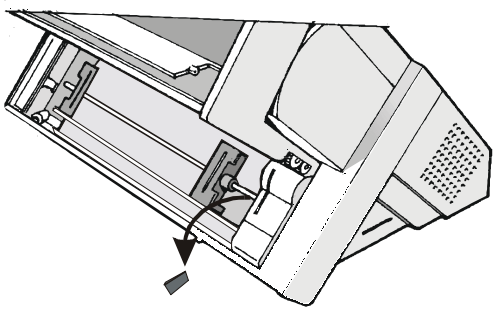
Additionally, you must make sure that when you install the printer in the selected location, there are sufficient clearances on all sides for easy operation. The required space is shown below:

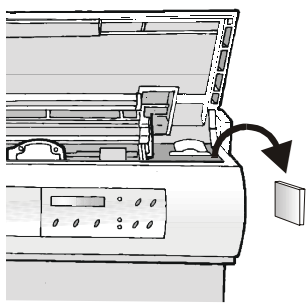


Printer Assembly

Removal of the Shipment Locks

Open all the printer covers and make sure that you remove all the shipment locks from the printer.



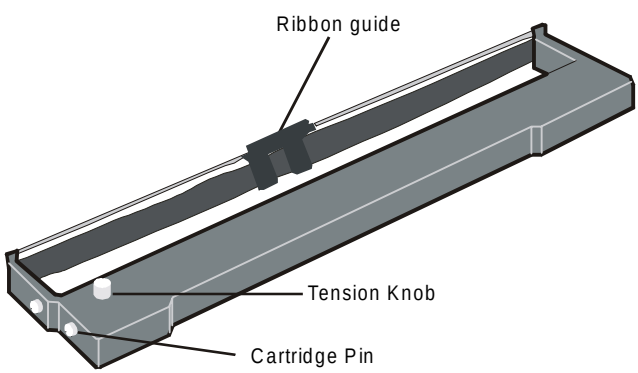


Ribbon Cartridge Installation

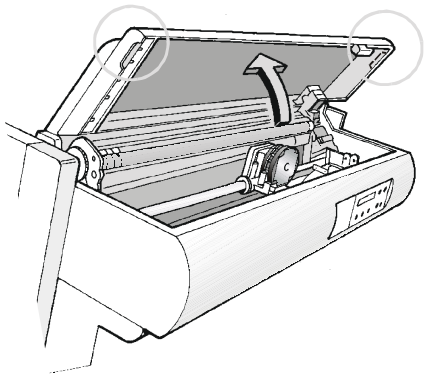
Two types of black ribbon cartridges are available for this printer, depending on whether the color kit is installed or not.

1. Make sure that the printer is turned off.

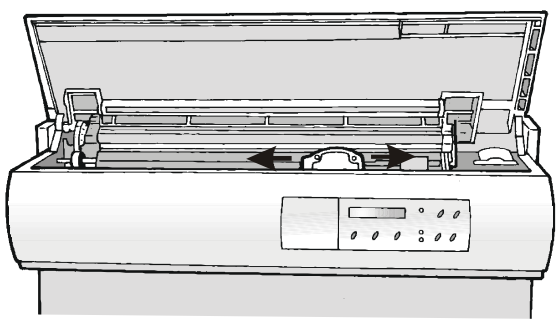
2. Find the ribbon cartridge among the accessories.



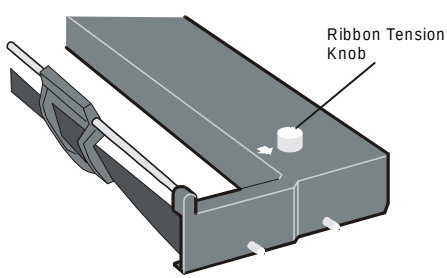
3. Open the top cover using the small handles on either side of the top cover.



4. Turn the printer on. The print carriage prepares for ribbon cartridge installation.



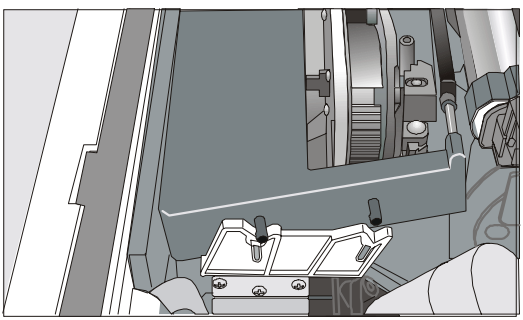
5. Before installing the ribbon cartridge turn the ribbon winding knob in the arrow direction (located on the cartridge) to take up slack in the ribbon.



To avoid damage to the ribbon, do not turn the winding knob in the wrong direction.

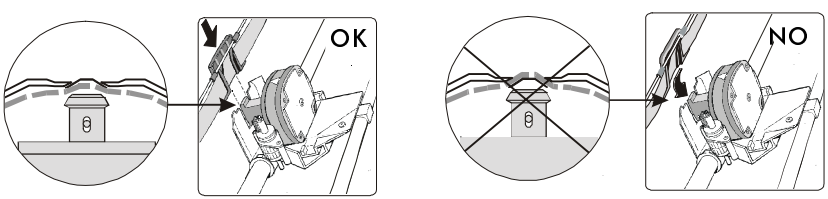
6. Align the cartridge pins with the locking grooves on the left and right cartridge supports.

> The cartridge (black or color) to be used when the color kit is installed has only one groove.

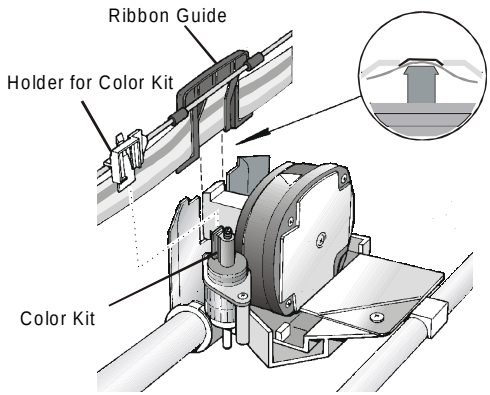


7. Slide and insert the ribbon guide between the print head and the ribbon guide mask holding it perpendicular to the print head.

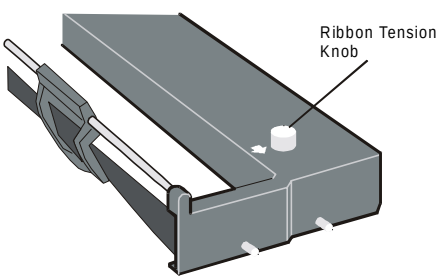
> Make sure that the ribbon is inserted correctly between the print head and the print head mask.



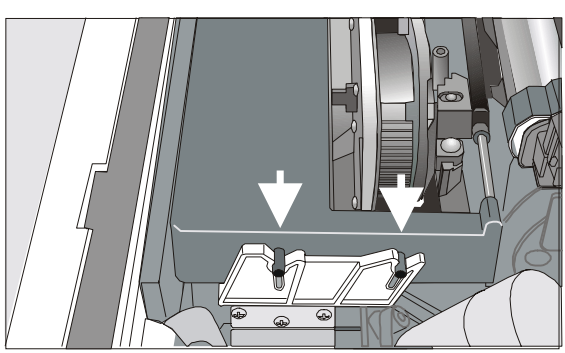
If the color kit option is installed on your printer insert the white plastic holder onto the color kit as shown in the following figure.



8. Turn the ribbon winding knob in the arrow direction (located on the cartridge) to take up slack in the ribbon.



9. Push the cartridge down gently until it clips into place at all four locking points.



10. Turn the ribbon winding knob again in the direction of the arrow to take up slack in the ribbon.

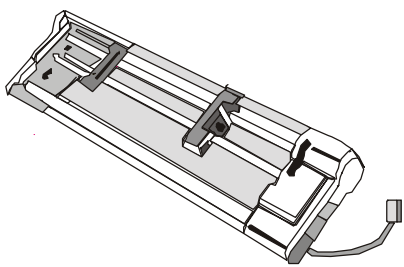
11. To ensure that the ribbon guide runs freely along the ribbon, manually move the print carriage horizontally.

If you need to replace the used ribbon cartridge, see "Replacing The Ribbon Cartridge", later in this manual.

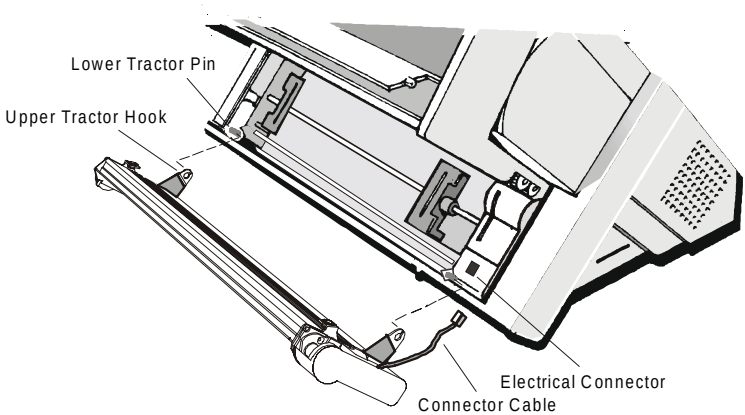
Upper Push Tractor Installation

An additional push tractor is provided with this printer. This second push tractor unit can be installed in front position (on the lower push tractor).

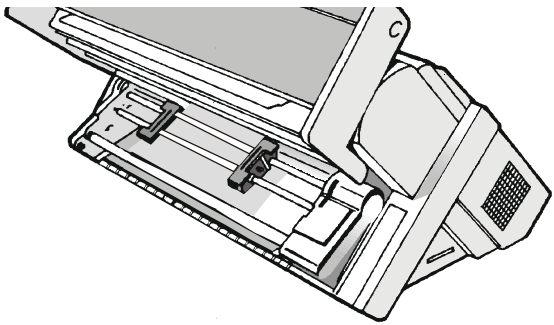
1. Find the upper push tractor among the accessories.



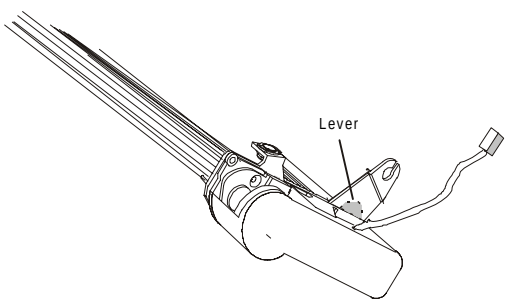
2. Align the upper push hooks with the tractor pins located in the lower push tractor. Insert the hooks into the corresponding pins. Push the upper tractor until it is fully engaged. Insert the connector cable in the electrical connector located in the lower push tractor.



3. The upper push tractor must be installed as shown in figure.



4. If you need to remove the upper push tractor, turn the printer off. Take the connector cable off and press on the internal levers (located in the upper push tractor hooks) to disengage the tractor.



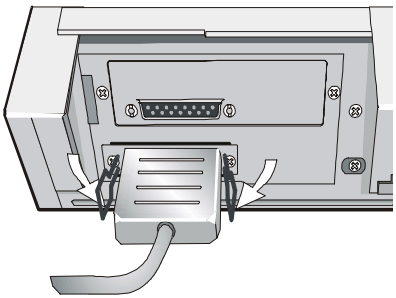
Host Computer Connection

This printer can be connected to your host computer via two available interfaces. The interface connectors are located on the rear of the printer.

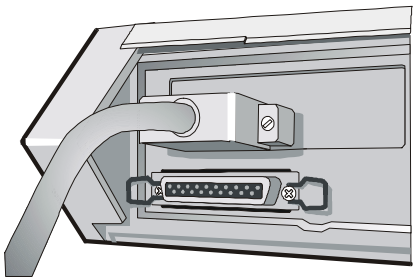
- A bidirectional IEEE1284 parallel interface
- A RS-232C/422A serial interface

> Before connecting the interface cable, make sure that the printer and the host computer are turned OFF .

Insert the *parallel interface cable* into the parallel connector and fasten it by means of the clips.
Insert the *serial interface cable* into the serial connector, and fasten it by means of the two screws (use the screwdriver).



Parallel Interface



Serial Interface

Software Driver Selection

At this point it is necessary to configure your printer for your application package. The installation procedures depend upon the host environment.

Follow the instructions in the *readme* file you find on the CD-ROM.

In a WINDOWS 95/98 environment the printer supports the Plug & Play feature.

The printer drivers of all Compuprint printers can be found at the Internet Address http://www.compuprint.net

Power Connection

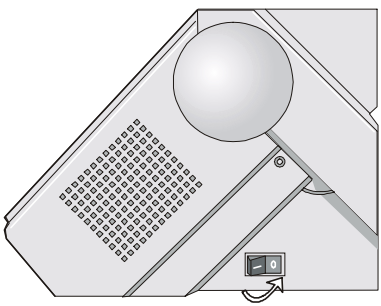
Make sure that the power outlet matches the power rating of the printer. See the name plate of the printer, that you find under the rear large cover.

In case the power rating does not correspond DO NOT CONNECT THE PRINTER TO THE MAINS. Consult your dealer for help.

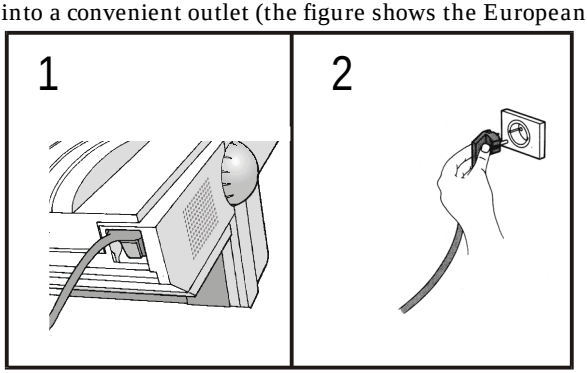
1. Make sure the power outlet is near the printer location and easily accessible.

> Always use a grounded outlet.

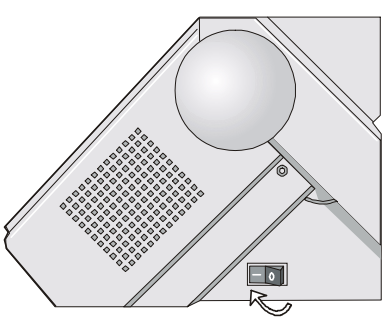
2. Make sure that the power switch is in *0 position (*OFF).



3. Insert the power cable plug into the printer connector and the other power cable end into a convenient outlet (the figure shows the European version).



4. If you need to turn the printer on, press the power switch in the *I position* (ON).



Selecting the Display Language

The display messages for this printer can be displayed in five different languages: English (Default), French, German, Italian and Spanish. To select the language, that you prefer, proceed as follows:

1. Press the PROGRAM key and keep it pressed while powering on the printer until the following message will be displayed:

   ```
   RELEASE KEY
   ```

2. When you release the PROGRAM key, the following messages will be displayed:

   ```
   9100
   ```

   then,

   ```
   PRINT OUT? NO
   ```

3. Press the ↓ key to enter the setup. The first setup item is displayed:

   ```
   LOW. JAM SENS. N
   ```

4. Press the ↓ key until the language first level function is displayed:

   ```
   FUNCTIONS
   ```

5. Press the → key to pass to the second level functions:

   ```
   SEQUENCE NONE
   ```

6. Press the ↓ key until the setup language is displayed:

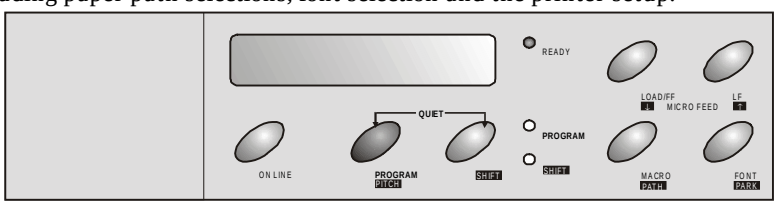
   ```
   MENU ENGLISH
   ```

7. Press the → key to scroll the setup languages. When the desired language is displayed, press the PROGRAM key to select it. The printer exits the setup. From now on the display messages appear in the selected language.

Configuring the Printer

Operator Panel Presentation

The operator panel enables you to perform many of the printer functions including paper path selections, font selection and the printer setup.



The operator panel consists of:

- A 16 character display (Liquid Crystal Display)
- Three function mode indicators
- Seven function keys

Display Messages

Instruction Messages

Message	Description
LOAD LOWER PUSH LOAD PUSH-PULL LOAD UPPER PUSH	These messages are displayed when the corresponding paper path is out of paper. The printer displays **only** the messages related to the installed devices.
RELEASE KEY	This message is displayed when you can release the PROGRAM key in the Self-test selection or in the Power-on Configuration procedure.

User Intervention Messages

Message	Description
CHECK CUTTER NUM. LINES <12	The cutter option is not able to cut the paper properly, because the paper length is less than 12 lines.
MACRO CHANGING	The macro has been changed and the printer is updating the settings.
PARK: SURE?	The user must confirm the parking of the paper by pressing the PARK key or may choose to leave the parking mode pressing the SHIFT key.
PARK ABORTED	This message appears to indicate that the interruption of the paper parking, at the request of the user, has been set pressing the SHIFT key.
TEAR OFF PAPER PARK PAPER	These rolling messages are displayed when the printer receives a paper parking command. Tear off the fanfold then press the PARK key to park the paper.

PATH CHANGING	The path has been changed and the printer is updating the settings.

Status Messages

Message	Description
font cpi	The printer is offline or online without printing.
LOWER PUSH	The lower push paper path is selected.
MENU LOCKED	When the access to the Printer Setups has been locked at the power on, the printer displays this message.
MENU UNLOCKED	When the access to the Printer Setups has been unlocked at the power on, the printer displays this message.
MICRO FEED DOWN ↓	The paper is fed in microsteps downwards when pressing the arrow key.
MICRO FEED UP ↑	The paper is fed in microsteps upwards when pressing the arrow key.
PUSH-PULL	The push-pull paper path is selected.
QUIET PRINT OFF	Printing at normal noise level.
QUIET PRINT ON	Printing at reduced noise level.
UPPER PUSH	The upper push paper path is selected.
SELF TEST	Printing the self-test page.
SHIFT FUNCTION	This message appears to indicate that the Shift functions of the operator panel keys have been selected pressing the SHIFT key.

Indicators

READY	Lit, when the printer can receive and print data (printer online). Blinks, when there is data in the buffer and the printer is offline. Unlit, when the printer is disabled and the buffer does not contain any data, or during the initialization, setup or tests.
PROGRAM	Blinks, when one of the printer setup procedures has been selected: *Program Configuration* or *Power-On Configuration*.
SHIFT	Lit, when the alternate function of the keys has been enabled pressing the SHIFT key.

Function Keys

The function keys are enabled, when the printer is offline (READY indicator unlit). The function keys have three functions each.

Normal Function The *normal* function of the keys does not require previous action to select it. This function is indicated in black characters beside the function keys.

Shift Function The *alternate* function is selected pressing the SHIFT key.
The alternate functions of the keys are described on the gray areas beside the keys. The SHIFT indicator is lit and the display shows `SHIFT FUNCTION`.
This function is not enabled, if the printer is in setup mode.

Program Function The *program* function is selected pressing the PROGRAM key, where:

- If you press the key while powering on the printer, the *Power-On Configuration* is selected.
- Pressing the key when the printer is enabled without printing or disabled (READY indicator unlit), the Program Setup is selected.

In the Program Setup mode only the four arrow keys and the PROGRAM key are enabled.
When the printer is in setup mode, the PROGRAM indicator blinks.

ON LINE Key

ON LINE	Normal Function	• Enables or disables the printer. • If this key is pressed while powering the printer on, the self test is printed; the printout is topped pressing this key again. • In an error condition, once the error cause has been removed, press this key to enable the printer. • If the Tear-Off Function in the *Program Setup* is set to `Manual`, press this key to position the paper for the Tear-Off.
	Program Function	Pressing this key, the input buffer is cleared an a break (250 msec.) on a serial interface is sent. The message `RESET & BREAK` is displayed.

PROGRAM Key

PROGRAM	Normal Function	Enables the printer setups as follows: • Pressing this key while powering on the printer, the *Power-On Configuration* is selected. • Pressing this key when the printer is enabled without printing or disabled (READY indicator unlit), the *Program Setup* is enabled.
PITCH	Shift Function	Selects the pitch to be used with the currently selected font. The selected pitch is valid until the printer is turned off.
	Program Function	Exits the current printer setup. See also "Leaving the Printer Setups", later in this section.

SHIFT Key

SHIFT	Normal Function	Enables the alternative key functions. If the printer is receiving print data, press the ON LINE key before pressing the SHIFT key. If no printing data are in the print buffer, pressing the SHIFT key, the printer goes offline. The display then shows `SHIFT FUNCTION` to indicate that the Shift Function of the keys is enabled. May be used to abort paper parking procedure. See also "How to Handle the Paper Parking", later in this manual.
	Shift Function	Disables the alternative key functions.

LOAD/FF Key

LOAD/FF	Normal Function	Executes a Form Feed (FF): when paper is loaded into the printer, it advances to the following page; if no paper is loaded, it is positioned for printing.
↑	Shift Function	Moves the paper forward in microsteps. Keeping the key pressed the paper is moved continuously at increasing speed.
↑	Program Function	Scrolls the parameters of the functions or macros backwards.

LF Key

LF	Normal Function	Performs a line feed according to the current line spacing settings.
↓	Shift Function	Moves the paper backward in microsteps. Keeping the key pressed the paper is moved continuously at increasing speed.
↓	Program Function	Scrolls the setup and macro functions forward.

MACRO Key

MACRO	Normal Function	Selects one of the user macros (Macro 1, Macro 2, Macro 3 or Macro 4). If you want to select the displayed macro, wait for 2 seconds without pressing any key and the parameters of this macro will be set .
PATH	Shift Function	Selects one of the paper paths. The parameters of the displayed path are set pressing the SHIFT key or waiting for 2 seconds without pressing any key.
←	Program Function	Scrolls the setup and macro functions backward.

FONT Key

FONT	Normal Function	Selects the font to be used with the currently selected pitch. The selected font is valid until the printer is turned off.
PARK	Shift Function	Parks the paper in the currently selected paper path.
→	Program Function	Scrolls the setup and macro functions forward.

Key Combinations

PROGRAM + SHIFT	Normal Function	When the printer is on line without printing or printing data (READY indicator lit) or when the printer is unable to receive and print data but there is still data in the input buffer (READY indicator blinks) press these two keys contemporaneously, the printing noise level toggles between normal (QUIET PRINT OFF) and reduced noise level (QUIET PRINT ON). When the printer is off line (READY indicator unlit), the printing noise level function is disabled.
ONLINE + MACRO + SHIFT	Normal Function	Lock or unlock the access to the printer setups. See later “How to Lock/Unlock the Access to the Printer Setups” section.

Printer Setups

The main printer setup parameters can be selected via the operator panel. The setup parameters are divided into two printer setups, the *Power-On Configuration*, that allows a complete configuration at installation time according to the hardware and the emulation types, and the *Program Setup*, that allows you to set the functions that are the most useful in your daily job. This settings can be selected when the printer is online without printing or offline (READY indicator unlit). These settings can be stored in the NVM.

Entering the Printer Setups

- Press the PROGRAM key and keep it pressed at the printer power on until the `RELEASE KEY` message is displayed to select the *Power-On Configuration*.

- Press the PROGRAM key when the printer is online without printing or offline (READY indicator unlit) to select the *Program Setup*.

Moving within the Printer Setups

The arrow keys ↑, ↓, ← , → are used to move within the different functions inside the Printer Setups. See the following description of the setup items.

Leaving the Printer Setups

- In the *Power-On Configuration* pressing the PROGRAM key the printer exits from the setup and the new settings will be automatically saved.

- In the *Program Setup* pressing the PROGRAM key, the following choice is offered for the storage of the values set:

`STORE? QUIT`	The new settings are not activated and the old settings remain valid.
`STORE? SAVE`	The new settings are stored permanently in the NVM (Non Volatile Memory).
`STORE? CURRENT`	The new settings remain valid until the printer is turned off.

Press the → or ← keys to scan these selections forward and backwards. When the desired setting is displayed, press the PROGRAM key to exit from the Setup.

Power-On Configuration

The default values of the various functions are indicated in bold.

Entering the Power-On Configuration

1. Make sure that the printer is turned off.

2. Press and hold the PROGRAM key pressed while powering on the printer until the `RELEASE KEY` message is displayed. As soon as the PROGRAM key gets released, the following message will be displayed:

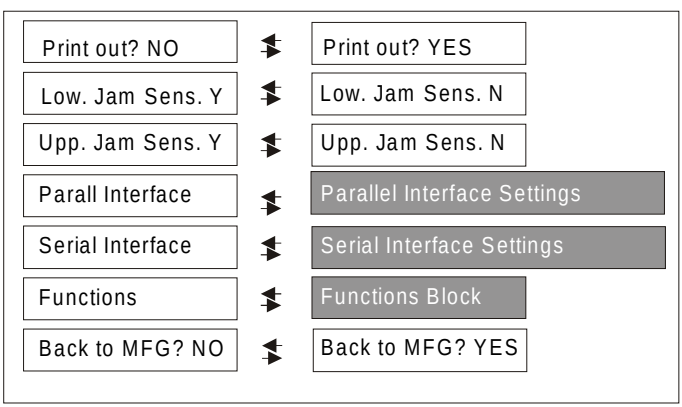
```
9100
```

then,

```
PRINT OUT? NO
```

The following figure shows the structure of the *Power-On Configuration* and how to move inside the Setup.

Main Structure

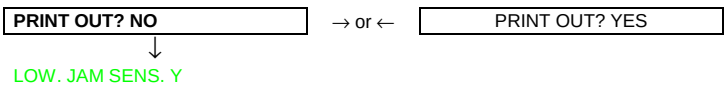


The functions concerning the interfaces group the parameters for the configuration of the interfaces.

The setup item `Functions` groups the following printer functions:

- Paper loading sequence,
- Buzzer setting,
- Ribbon type,
- Text printing direction,
- Graphics printing direction,
- Bar code printing direction,
- Paper path at power on,
- Language of the display messages.

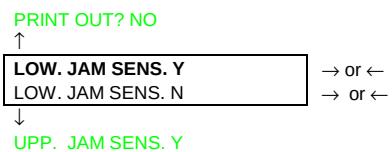
Printout of the Printer Settings



PRINT OUT? NO — The Setup is not printed.

PRINT OUT? YES — The printer setup is printed showing the currently selected values. The printout starts as soon as you select this value.

Enable/Disable Lower Tractor Jam Sensor

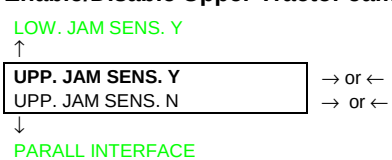


LOW. JAM SENS. Y — Enables the paper jam sensor located in the Lower Push Tractor.

LOW. JAM SENS. N — Disables the paper jam sensor located in the Lower Push Tractor.

When the cutter option is used, the jam sensor should be enabled for higher cut precision.

Enable/Disable Upper Tractor Jam Sensor



UPP. JAM SENS. Y — Enables the paper jam sensor located in the Upper Push Tractor.

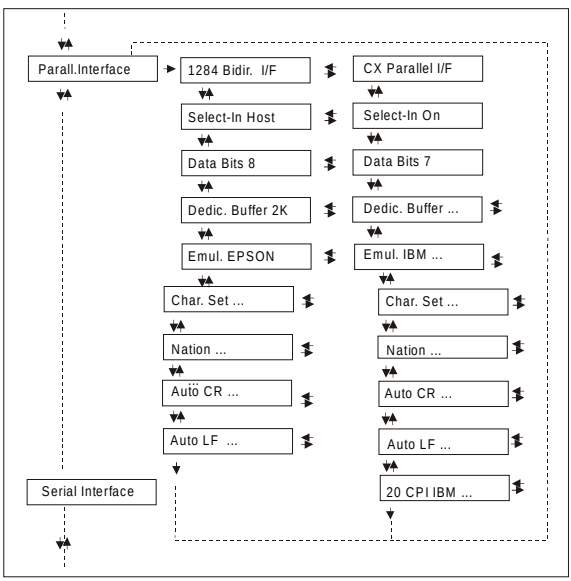
UPP. JAM SENS. N — Disables the paper jam sensor located in the Upper Push Tractor.

When the cutter option is used, the jam sensor should be enabled for higher cut precision.

Parallel Interface

This setup defines the use of the parallel interface and is structured according to the interface specific parameters.

Parallel Interface Parameters



Setting the Interface Parameters

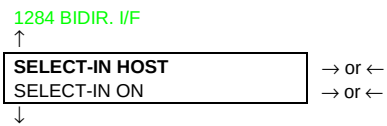
Interface Type

UPP. JAM SENS. Y
↓
PARALL INTERFACE → PARALL INTERFACE
↑
1284 BIDIR. I/F → or ←
CX PARALLEL I/F → or ←
↓
SERIAL INTERFACE
↓
SELECT-IN HOST

1284 BIDIR I/f — Bidirectional IEEE 1284 parallel interface.

CX PARALLEL I/F — Centronics type parallel interface (monodirectional).

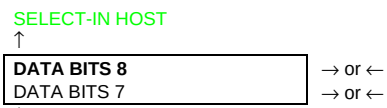
Setting the Select-In Signal



SELECT-IN HOST — The printer checks the SELECT-IN signal coming from the host.

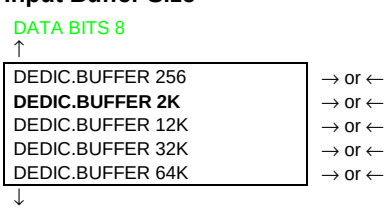
SELECT-IN ON — The SELECT-IN signal of the parallel interface is ignored and treated always as ON.

Number of Data Bits



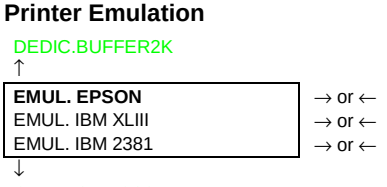
Selection of the number of data bits: 7 or 8

Input Buffer Size



Selects the input buffer size. If the input buffer is set to 64K, the DLL is not available.

Printer Emulation



EMUL EPSON — The printer uses the EPSON ESC/P (FX 1050) emulation.

EMUL IBM XLIII — The printer uses the IBM Proprinter XL III emulation.

EMUL. IBM 2381 — The printer uses the IBM Personal 2381 emulation.

EPSON Character Sets

EMUL. EPSON
↑

CHAR. SET CS1	→ or ←
CHAR. SET CS2	→ or ←
CHAR. SET ITALIC	→ or ←

↓
NATION CP437

These items select the character set to be used in EPSON emulation.

IBM Character sets

EMUL. IBM
↑

CHAR. SET CS1	→ or ←
CHAR. SET CS2	→ or ←

↓
NATION CP437

These items select the character set to be used in IBM Proprinter emulation.

EPSON National Character sets

CHAR. SET CS2
↑

NATION CP437	→ or ←
NATION ...	→ or ←
NATION LATIN A1	→ or ←

↓
AUTO CR YES

The following national character sets are available:

CP 437	CP437 G	CP850	CP851	CP 852	CP 853
CP 855	CP 857	CP 858	CP 860	CP 862	CP 863
CP 864	CP 865	CP 866	CP 867	CP 876	CP 877
GOST	TASS	ISO 8859/1	ISO 8859/2	ISO 8859/3	ISO 8859/4
ISO 8859/5	ISO 8859/6	ISO 8859/7	ISO 8859/8	ISO 8859/9	ISO 8859/15
USA	FRANCE	GERMANY	ENGLAND	DENMARK1	SWEDEN
ITALY	SPAIN1	JAPAN	NORWAY	DENMARK2	SPAIN2
LATIN A1					

The CP 858 and ISO 8859/15 character sets contain the Euro character.

IBM National Character Sets

CHAR. SET CS2
↑

NATION CP437	→ or ←
NATION ...	→ or ←
NATION 8859- 15	→ or ←

↓
AUTO CR YES

The following national character sets can be selected:

CP 437	CP437 G	CP850	CP851	CP 852	CP 853
CP 855	CP 857	CP 858	CP 860	CP 862	CP 863
CP 864	CP 865	CP 866	CP 867	CP 876	CP 877
GOST	TASS	ISO 8859/1	ISO 8859/2	ISO 8859/3	ISO 8859/4
ISO 8859/5	ISO 8859/6	ISO 8859/7	ISO 8859/8	ISO 8859/9	ISO 8859/15

The CP 858 and ISO 8859/15 character sets contain the Euro character.

CR Code Behavior

NATION xxx
↑
AUTO CR NO → or ←
AUTO CR YES → or ←
↓
AUTO LF NO

AUTO CR NO — No automatic carriage return is performed after a LF, VT or ESCJ code.

AUTO CR YES — The printer performs an automatic carriage return after a LF, VT or ESCJ code .

LF Code Behavior

AUTO CR NO
↑
AUTO LF NO → or ←
AUTO LF YES → or ←
AUTO LF HOST (Parallel interface only) → or ←
↓
20 CPI IBM NO
or
PARALL INTERFACE

AUTO LF NO — No Automatic LF after CR.

AUTO LF YES — Automatic LF after CR.

AUTO LF HOST *(Parallel interface only)* — Only in EPSON emulation. The printer checks the AUTOFEEDXT signal coming from the host and executes an automatic LF after CR, if the signal is low.

IBM Compressed Printing

These items are displayed only, if the IBM emulation is selected.

AUTO LF NO
↑
20 CPI IBM NO → or ←
20 CPI IBM YES → or ←
↓
PARALL INTERFACE

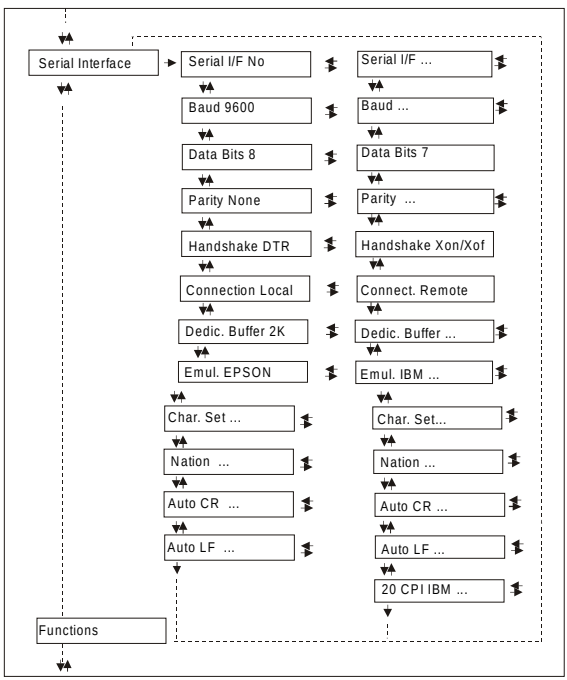
20 CPI IBM NO — The compressed printing is performed at 17.1 cpi.

20 CPI IBM YES — The compressed printing is performed at 20 cpi.

Serial Interface

This setup defines the use of the serial interface and is structured according to the interface specific parameters.

Serial Interface Parameters



Setting the Interface Parameters

Interface Type

PARALL INTERFACE
↑
SERIAL INTERFACE → SERIAL INTERFACE
↓ ↑
FUNCTIONS **SERIAL I/F NO** → or ←
SERIAL I/F 232 → or ←
SERIAL I/F 422 → or ←
↓
BAUD 9600

SERIAL I/F NO	The serial interface is disabled
SERIAL I/F 232	Defines the usage of the serial interface RS-232/C
SERIAL I/F 422	Defines the usage of the serial interface RS-422/A

Baud Rate

SERIAL I/F NO
↑

BAUD 300	→ or ←
BAUD 600	→ or ←
BAUD 1200	→ or ←
BAUD 2400	→ or ←
BAUD 4800	→ or ←
BAUD 9600	→ or ←
BAUD 19200	→ or ←
BAUD 38400	→ or ←

↓
DATA BITS 8

The baud rate is selected in bits per second. The above values can be selected.

Number of Data Bits

BAUD 9600
↑

DATA BITS 8	→ or ←
DATA BITS 7	→ or ←

↓
PARITY NONE

Selection of the number of data bits: 7 or 8.

Parity Check

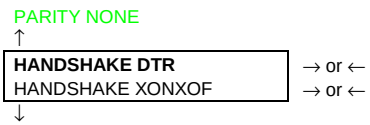
DATA BITS 8
↑

PARITY NONE	→ or ←
PARITY ODD	→ or ←
PARITY EVEN	→ or ←
PARITY MARK	→ or ←
PARITY SPACE	→ or ←

↓
HANDSHAKE DTR

PARITY NONE	Data does not have a parity bit, i.e. 8 bit data are transferred and the parity check is disabled.
PARITY ODD	Parity check is enabled for odd parity.
PARITY EVEN	Parity check is enabled for even parity.
PARITY MARK	Parity check is disabled and the transmitted parity bit is always a Mark.
PARITY SPACE	Parity check is disabled and the transmitted parity bit is always a Space.

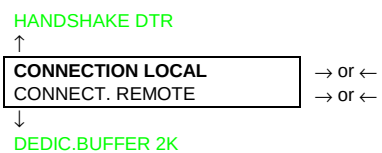
Handshake Protocol



HANDSHAKE DTR — The Handshake is performed using the DTR Protocol.

HANDSHAKE XONXOF — The Handshake is performed using the XON-XOFF Protocol.

Connection Type



Selects the connection type: local or remote.

Input Buffer Size

See the description of the parallel interface.

Printer Emulation

See the description of the parallel interface.

EPSON Character Sets

See the description of the parallel interface.

IBM Character sets

See the description of the parallel interface.

EPSON National Character sets

See the description of the parallel interface.

IBM National Character Sets

See the description of the parallel interface.

CR Code Behavior

See the description of the parallel interface.

LF Code Behavior

See the description of the parallel interface.

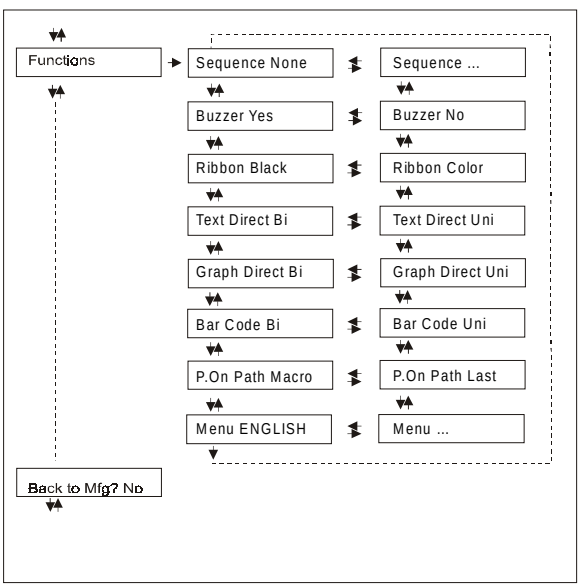
IBM Compressed Printing

See the description of the parallel interface.

Functions

This item groups various printer functions, with which you can configure the printer.

Functions Group Parameters



Setting the Functions Group Items

Paper Loading Sequence

SERIAL INTERFACE
↑
FUNCTIONS → FUNCTIONS
↓ ↑
RETURN TO MFG: NO SEQUENCE NONE → or ←
SEQ. L+U PUSH → or ←
↓
BUZZER YES

The SEQ.L+U PUSH item is displayed only, if the upper push tractor is installed.

SEQUENCE NONE — The paper is fed only through the path selected by operator panel.

SEQ. L+U PUSH — The paper is fed firstly through the lower push path and successively through the upper push path.

Enable/Disable the Buzzer

SEQUENCE NONE
↑

BUZZER YES	→ or ←
BUZZER NO	→ or ←

↓
RIBBON BLACK

Enable or disables the buzzer.

Ribbon Type Selection

BUZZER YES
↑

RIBBON BLACK	→ or ←
RIBBON COLOR	→ or ←

↓
TEXT DIRECT BI

Selects the ribbon type to be used with the printer: black or color.

Text Print Direction

RIBBON BLACK
↑

TEXT DIRECT BI	→ or ←
TEXT DIRECT UNI	→ or ←

↓
GRAPH DIRECT BI

Selects the print direction for text: bidirectional or unidirectional.

Graphics Print Direction

TEXT DIRECT BI
↑

GRAPH DIRECT BI	→ or ←
GRAPH DIRECT UNI	→ or ←

↓
BARCODES DIR.UNI

Selects the print direction for graphics: bidirectional or unidirectional.

Bar Codes Print Direction

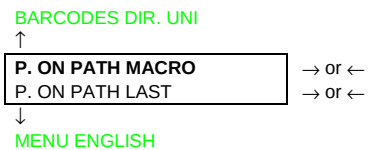
GRAPH DIRECT BI
↑

BARCODES DIR. UNI	→ or ←
BARCODES DIR. BI	→ or ←

↓
P. ON PATH MACRO

Selects the print direction for bar codes: bidirectional or unidirectional.

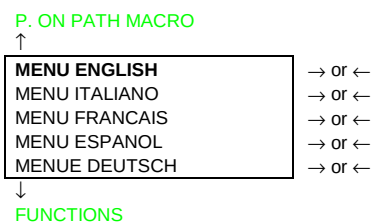
Paper Path at Power-On



P. ON PATH MACRO — The paper path at power-on is the one from the default Macro.

P. ON PATH LAST — The paper path at power-on is the last one that was selected before the printer was powered off.

Selection of the Language of the Display Messages

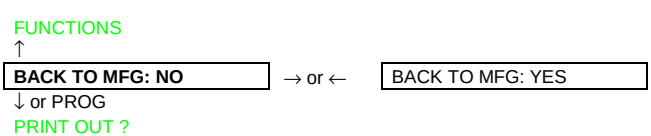


These items are self explaining.

See also “Selecting the Display Language” before in this manual.

Resetting to Factory Default Values

With the BACK TO MFG function it is possible to reset all items in the Power On Configuration and in the Program Setup to their factory default values. This may be useful if you do not remember the values you set in the setups, or because you simply changed you mind about the settings you have just done. The default values for the setup items are indicated in bold



If you want to select BACK TO MFG:YES, you have to exit from this item using the ↑ or the ↓ key, in order to confirm the selection of this value.

At this point, the *Power On Configuration* Setup procedure is finished. If you exit pressing the ↓ and the PROGRAM key, the new settings will be saved.

Do not power off the printer before all data have been written into the NVM and the printer has returned online.

Program Setup

The default values of the various functions are indicated in bold.

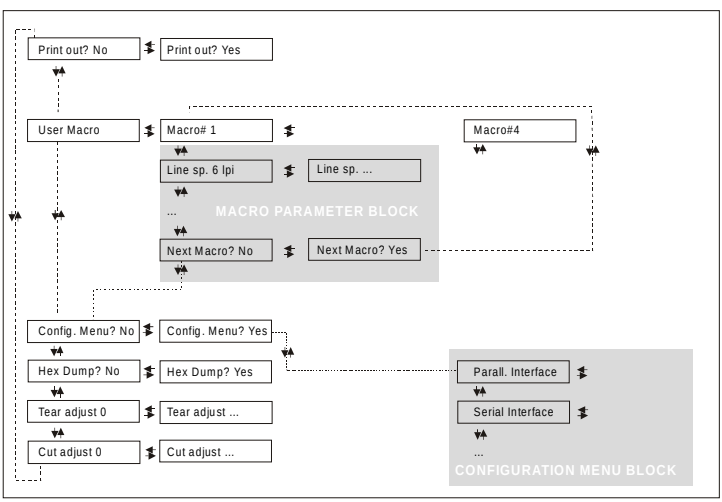
Entering the Program Setup

Press the PROGRAM key when the printer is turned on and is offline or online without printing. The following message will be displayed:

```
PRINT OUT? NO
```

The figure in the following page shows the structure and how to move inside the Program Setup.

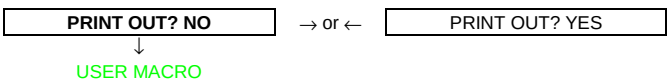
Main Structure



The items define the following parameters:

- Four user macros
- The direct access to the Power-On Configuration
- Hexadecimal printout
- Tear-Off adjustment
- Cut adjustment

Printout of the Printer Settings



PRINT OUT? NO	The setup is not printed.
PRINT OUT? YES	The printer setup is printed. The printout starts as soon as you select this value.

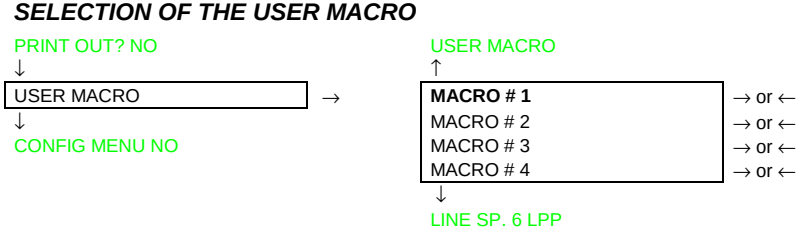
NOTE: The Program setup printout indicates:

- the currently selected values,
- the current selected macro is marked with the #x# symbols (`USER MACRO #x#`),
- the current firmware release.

USER MACRO

The `USER MACRO` item allows to prepare four printing environments (`MACRO#1, MACRO#2, MACRO#3 and MACRO#4`). Each macro is composed of a group of parameters which define a configuration that can then be recalled to easily set the printer for four printing environments.

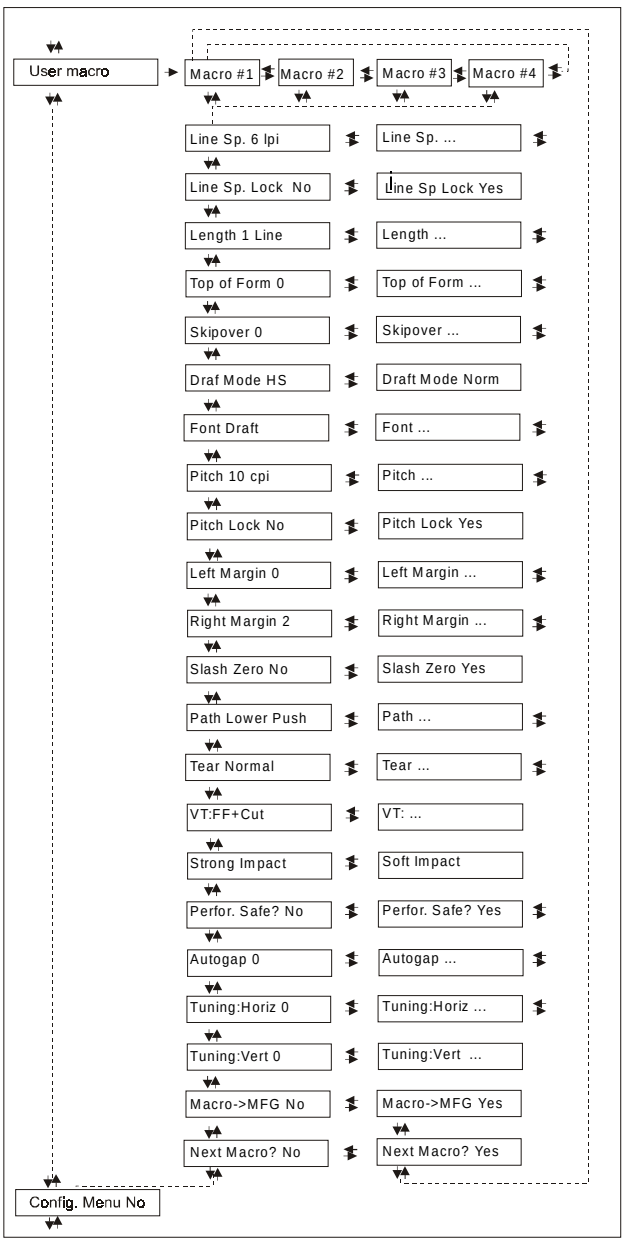
SELECTION OF THE USER MACRO



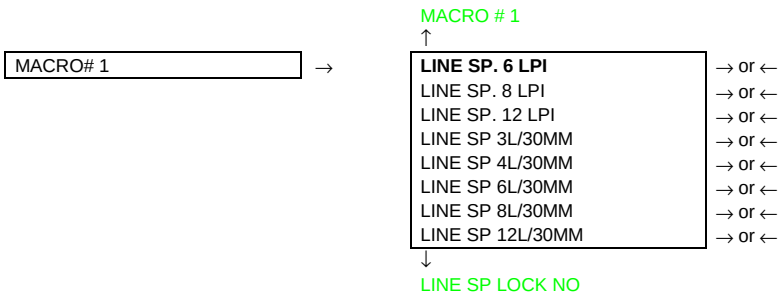
Selection of the macro for which you intend to set the parameters.

When a new macro is selected and the fanfold paper is present in the paper path set in the previous macro, it will be automatically parked (`PARK: SURE?` is displayed).Tear off this fanfold paper to avoid paper jams and press PARK key.

USER MACRO PARAMETERS

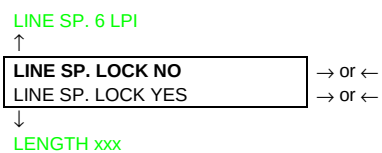


Line Spacing



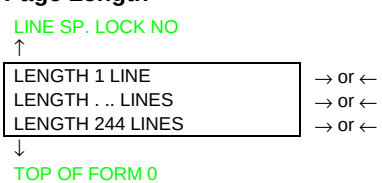
These values define the line spacing in lines/inch (6, 8, 12) or in lines per 30 mm (3, 4, 6, 8, 12).

Line Spacing Lock



LINE SP. LOCK NO	Setting this item, the value set for vertical spacing can be changed by software or operator panel
LINE SP. LOCK YES	Setting this item, the value set for vertical spacing cannot be changed by software but only by operator panel.

Page Length



These items set the page length for fanfold paper in number of lines depending on the current vertical spacing. Default value is **66 lines**.

Top of Form

LENGTH Xx
↑

TOP OF FORM 0	→ or ←
TOP OF FORM ...	→ or ←
TOP OF FORM xxx	→ or ←

↓
SKIPOVER 0

These items set the top of form. The values range between 0 and the page length - 1.

Skip Over Perforation

TOP OF FORM 0
↑

SKIPOVER 0	→ or ←
SKIPOVER ...	→ or ←
SKIPOVER xxx	→ or ←

↓
DRAFT MODE HS

These items set the skipover perforation. The values range between 0 and the page length - 1.

Draft Mode Selection

SKIPOVER 0
↑

DRAFT MODE HS	→ or ←
DRAFT MODE NORM	→ or ←

↓
FONT Draft

DRAFT MODE HS	Selects the HS Draft mode printing.
DRAFT MODE NORM	Selects the Draft mode printing.

Font Selection

DRAFT MODE HS
↑

FONT Draft	→ or ←
FONT Courier	→ or ←
FONT OCR-B	→ or ←
FONT Gothic	→ or ←
FONT OCR-A	→ or ←
FONT DP Text	→ or ←

↓
PITCH 10 CPI

Selects the fonts. OCR-A is displayed only if a non proportional pitch has been selected.

Pitch Selection

FONT Draft
↑

PITCH 5 CPI	→ or ←
PITCH 6 CPI	→ or ←
PITCH 7.5 CPI	→ or ←
PITCH 8.5 CPI	→ or ←
PITCH 10 CPI	→ or ←
PITCH 12 CPI	→ or ←
PITCH 15 CPI	→ or ←
PITCH 17.1 CPI	→ or ←
PITCH 20 CPI	→ or ←
PITCH PROP	→ or ←

↓
PITCH LOCK NO

These items set the horizontal spacing in characters per inch. The PROP item sets proportional character spacing.

Pitch Lock

PITCH 10 CPI
↑

PITCH LOCK NO	→ or ←
PITCH LOCK YES	→ or ←

↓
LEFT MARGIN 0

PITCH LOCK NO	Setting this item, the pitch can be changed by software or operator panel.
PITCH LOCK YES	Setting this item, the pitch can be changed ONLY by operator panel.

Left Margin

PITCH LOCK NO
↑

LEFT MARGIN 0	→ or ←
LEFT MARGIN ...	→ or ←
LEFT MARGIN xxx	→ or ←

↓
RIGHT MARGIN 136

The Left Margin is set in number of columns (depending on the current pitch) starting from the physical left edge.

Right Margin

LEFT MARGIN 0
↑

RIGHT MARGIN. 2	→ or ←
RIGHT MARGIN. ...	→ or ←
RIGHT MARGIN. xxx	→ or ←

↓
SLASH ZERO NO

The Right Margin is set in number of columns (depending on the current pitch) starting from the physical left edge. The default value is **136**.

Zero Character Printing

RIGHT MARGIN 136
↑

SLASH ZERO NO	→ or ←
SLASH ZERO YES	→ or ←

↓
PATH LOWER PUSH

You can select the Zero character printing with or without a slash.

Paper Path Selection

This function defines the default paper path for the current macro.

SLASH ZERO NO
↑

PATH LOWER PUSH	→ or ←
PATH UPPER PUSH	→ or ←
PATH PUSH PULL	→ or ←

↓
TEAR NORMAL

PATH LOWER PUSH	Paper loading with the lower push tractor.
PATH UPPER PUSH	Paper loading with the upper push tractor.
PATH PUSH PULL	Paper loading using the lower push tractor and the rear pull tractor.

Tear-Off Mode

LOWER PUSH
↑

TEAR NORMAL	→ or ←
TEAR AUTOMATIC	→ or ←
LABELS	→ or ←
TEAR NO	→ or ←
ENABLE CUTTER	→ or ←

↓
VT: FF+CUT

TEAR NORMAL	The Tear-Off Function is performed pressing the ONLINE key when the printer is offline .
TEAR AUTOMATIC	When the printer is not receiving any data, the paper is moved to the Tear-Off position. It is returned to the Tear-Off position as soon as it receives printing data.
LABELS	This item must be set when printing on labels, in order to avoid paper jams. The paper does not execute any backward movement.
TEAR NO	The paper does not execute any backward movement.
ENABLE CUTTER	This selection enables the cutter option and appears only, if the cutter option is installed.

See also “How to Use the Tear-Off Function” later in this chapter.

Cutter mode

TEAR NORMAL
↑

VT: FF + CUT	→ or ←
VT: LF+CUT	→ or ←
VT: VT	→ or ←
CUT EACH PAGE	→ or ←
CUT PAPER CHANGE	→ or ←

↓
STRONG IMPACT

VT: FF + CUT	When the printer receives a VT command, it performs a form feed and then cuts the paper.
VT: LF + CUT	When the printer receives a VT command, it performs a line feed and then cuts the paper.
VT: VT	When the printer receives a VT command, it performs a vertical tabulation.
CUT EACH PAGE	Selecting this item, the printer cuts the paper at the end of each page according to the selected page length.
CUT PAPER CHANGE	Selecting this item, the printer cuts the paper when it receives a paper path change command and passes over to the new paper path.

Print Impact Strength

VT:FF+CUT
↑

STRONG IMPACT	→ or ←
SOFT IMPACT	→ or ←

↓
PERFOR. SAFE NO

STRONG IMPACT	The impact strength of the print head is set for printing on multicopy paper.
SOFT IMPACT	The impact strength of the print head is set for printing few copies. The printing noise is reduced.

Paper Perforation

This function allows to move the print head aside the paper when the fanfold paper perforation passes between the mylar and the print bar, to avoid paper jams.

STRONG IMPACT
↑

PERFOR. SAFE NO	→ or ←
PERFOR. SAFE YES	→ or ←

↓
AUTOGAP 0

PERFOR. SAFE NO	The function is disabled. The print head remains in its position, when the perforation of the paper passes.
PERFOR. SAFE YES	The function is enabled. The print head is moved aside, when the perforation passes.

Adjusting the Distance of the Print Head

PERFOR. SAFE NO
↑

AUTOGAP -5	→ or ←
AUTOGAP ...	→ or ←
AUTOGAP +3	→ or ←
MANUAL GAP	→ or ←
FIXED GAP 0.3	→ or ←
FIXED GAP ...	→ or ←
FIXED GAP 9.3	→ or ←

↓
TUNING.HORIZ 0

AUTOGAP xxx	Selecting one of these values sensing the paper thickness. Negative values reduce the distance between the print head and the paper. Default value is **AUTOGAP 0**.
MANUAL GAP	Selecting this item, the print head must be adjusted manually.
FIXED GAP xxx	Selecting one of these values the printer adjusts the print head gap to a fixed distance.

Horizontal Character Tuning

AUTOGAP 0
↑

TUNING:HORIZ 0	→ or ←
TUNING:HORIZ ...	→ or ←
TUNING:HORIZ 60	→ or ←

↓
TUNING.VERT 0

These values adjust the distance between the left paper margin and the first print character. The values correspond to 1/120 inch units, i.e. the tuning ranges between 0 and 0,5 inch.

Vertical Character Tuning

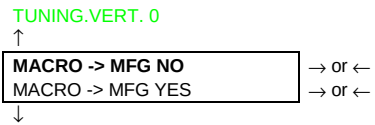
TUNING.HORIZ 0
↑

TUNING:VERT. -24	→ or ←
TUNING:VERT. ...	→ or ←
TUNING:VERT. 288	→ or ←

↓
MACRO -> MFG NO

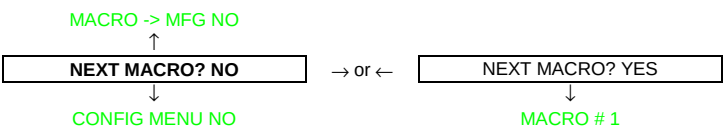
These values adjust the distance between the top paper margin and the first printable line. The values correspond to 1/144 inch units, i.e. the tuning ranges between -1/6 and 2 inch. **0** is the default value.

Resetting the Macro Parameters to the Factory Defaults



MACRO -> MFG NO	The new values set for the macro parameters will be the used.
MACRO -> MFG YES	The values set for the macro parameters will be reset to their factory defaults.

Selecting Another Macro



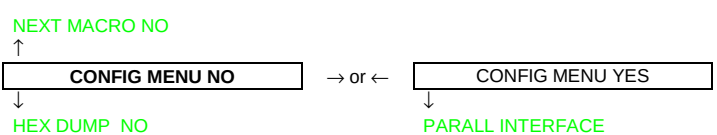
To pass over to another macro, select `NEXT MACRO YES`. Pressing the ↓ or ↑ key the item `MACRO#1` is displayed, then press the → key to pass over to `MACRO#2` (`MACRO CHANGING` is displayed).

> When passing over from one macro to another, the fanfold paper loaded from the paper path, selected in the previous macro, will be automatically parked (`PARK: SURE?` is displayed). Tear off this fanfold paper to avoid paper jams and press PARK key.

You can now set the parameters for Macro#2 as described above. In this way you prepare the second printing environment. Passing over from one macro to the other then sets two different printing environments.

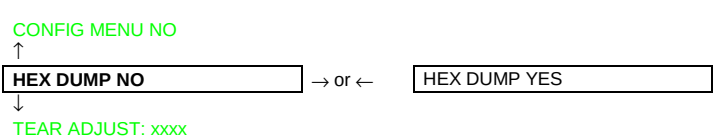
Passing over to the Power-On Configuration

At this point of the setup, it is possible to pass over to the Power On Configuration Functions Setting.



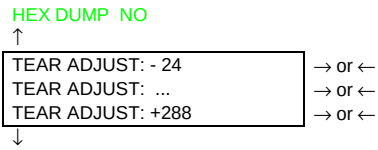
These items are self-explaining.

Hexadecimal Dump



If you select HEX DUMP YES, press the PROGRAM key to set this item. The hexadecimal printing continues, until the HEX DUMP NO item is selected, entering again into the Program Setup.

Adjusting the Tear-Off Position

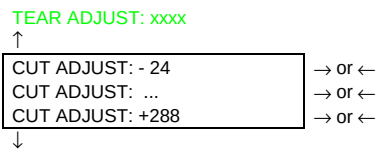


TEAR ADJUST: xxxx

These values adjust the distance between the Tear-Off Perforation and the Tear-Off Bar. The values correspond to 1/144 inch units, i.e. the tuning ranges between -1/6 and 2 inch. **0** is the default value.

See also “How to Use the Tear-Off Function”, later in this Chapter".

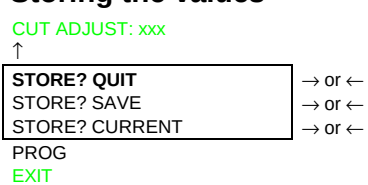
Adjusting the Cut Position



CUT ADJUST: xxxx

These values adjust the position in which the paper is cut. The values correspond to 1/144 inch units, i.e. the tuning ranges between -1/6 and 2 inch. **0** is the default value.

Storing the values



STORE? QUIT — This setting does not save any of the new values set. The values set previously will be used.

STORE? SAVE — The values set are stored permanently (in the NVM) and will be used until they are changed by the operator.

STORE? CURRENT — The values set are valid until the printer is turned off. When you turn the printer on again, the values set in the preceding setup setup will be used.

At this point the Program Configuration Setup is finished. You exit pressing the PROGRAM key.

How to Select the Paper Path

The paper can be loaded into the printer using different paper paths. The messages indicating the paper paths are shown only if the corresponding loading device is installed on the printer.

Proceed as follows:

1. Press the READY key to put the printer offline (READY indicator unlit).

2. Press the PATH key, according to the installed devices the following messages are displayed:

LOAD LOWER PUSH	For the lower push tractor paper path.
LOAD UPPER PUSH	For the upper push tractor paper path.
LOAD PUSH-PULL	For the paper path using the lower push tractor and the optional rear pull tractor.

- To load fanfold paper go to "Loading Paper Using the Lower Tractor", "Loading Paper Using the Upper Tractor" or "Loading Paper Using the Lower Push Tractor and the Rear Pull Tractor (option)".

When a new paper path is selected, the paper loaded in the printer is automatically parked.

How to Use the Tear-Off Function

This function is used to match the paper perforation with the tear-off bar. For this function the following values must be set:

Selection of the Paper Size

1. Press the PROGRAM key when the printer is disabled or enabled without printing to enter the Program Setup.

2. Press the ↓ key and the following message appears:

```
USER MACRO
```

3. Press the → key to select the macro for which you want to set the paper size (MACRO#1, MACRO#2, MACRO#3 or MACRO#4).

4. Once the desired macro is displayed press the ↓ key until the following parameter is displayed:

```
LENGTH xx
```

5. Press the → or ← key until the desired page size is displayed.

6. Press again the PROGRAM key to exit the setup end set the new value.

Adjusting the Tear-Off Position

The default value for the Tear-Off Function is TEAR NORMAL. To check the Tear-Off Position proceed as follows:

1. To move the paper to the Tear-Off position, press the ON LINE key when the printer is disabled or enabled without printing.

2. Check if the paper perforation matches the tear-off bar on the printer.

If it does not:

1. Press the PROGRAM key to enter the *Program Setup*.

2. Press the ↓ key until the following message appears:

```
USER MACRO
```

3. Press the → key until the macro for which you want to adjust the tear-off is displayed (#1, #2, #3 or #4):

```
MACRO # x
```

4. Press the ↓ key until the following message is displayed:

```
TEAR ADJUST xxx
```

5. Press the → or ← key to scroll the values of this function.

The values below 0 move the tear-off position downwards, values above 0 move the paper upwards. The values can be set between -24 and 288 at 1/144 inches (-1/6 to 2 inches).

6. When the desired value is displayed, press the PROGRAM key. The storage options are displayed.

7. Press the → or ← key, until the following message is displayed:

```
STORE? SAVE
```

8. Press the PROGRAM key to exit from the setup.

Selection of the Tear-Off Mode

It is now possible to select the Tear-Off Mode.

1. Press the PROGRAM key when the printer is disabled or enabled without printing to enter the *Program Setup*.

2. Press the ↓ key. The following message is displayed:

```
USER MACRO
```

3. Press the → key to select the macro for which you want to set the tear-off mode MACRO#1, MACRO#2, MACRO#3 or MACRO#4).

4. Press the ↓ key, until the following message is displayed:

```
TEAR NORMAL
```

Pressing the → or ← key it is now possible to decide how to execute the tear off function:

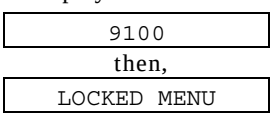
TEAR NORMAL	Pressing the ON LINE key the paper is moved to the tear-off position. Pressing again the ON LINE key, the paper is moved to the printing position. If the ON LINE key is not pressed for 10 seconds, the paper moves automatically back to the print position.
TEAR AUTOMATIC	If the printer is not receiving data, the paper is moved automatically to the tear position.
LABELS	The ON LINE key is disabled for the tear-off function. This selection is useful when printing on labels.
TEAR NO	The Tear-Off function is disabled

5. Press the PROGRAM key to exit the setup.

How to Lock/Unlock the Access to the Printer Setups

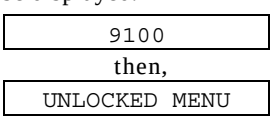
To prevent not expertise persons changing the printer setup parameters, it is possible to lock/unlock the access to the printer setups as follows:

- Press ON LINE, MACRO and SHIFT keys at the same time and keep them pressed while powering the printer on. As soon as these keys are released, the following messages will be displayed:



Now the access to the printer setups is locked. If the PROGRAM key is pressed, the LOCKED MENU message is displayed (the PROGRAM key is disabled).

- If you decide to unlock the printer setup, turn the printer off, then press the ON LINE, MACRO and SHIFT keys at the same time and keep them pressed while powering the printer on again. As soon as these keys are released, the following messages will be displayed:



How to Handle the Paper Parking

The paper parking is performed in the following cases:

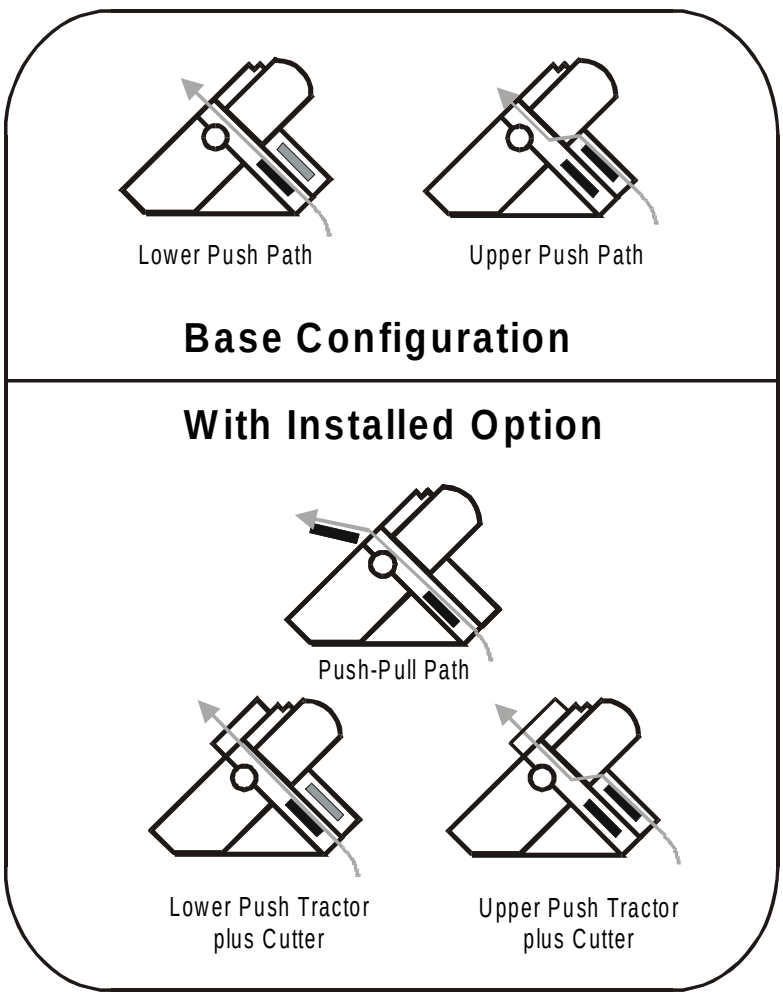
- At power on, if the paper is loaded in a paper path that is not the default one, the parking is performed automatically.
- If the PATH key is pressed to change the paper path and the paper is present, the printer requests to park the paper (PARK SURE? message is displayed) by pressing the PARK key before the paper path is changed. Now the paper is loaded in the new paper path.
- When loading paper via SW command in a different paper path, the printer requests to park the paper in the current paper path (PARK SURE? message is displayed) by pressing the PARK key, then the printer parks the paper before loading it in the selected one.
- When parking via SW command, the printer requests to park the paper (PARK SURE? message is displayed) by pressing the PARK key.
- When changing to a macro using a different paper path, the printer automatically parks the paper.

In all the above cases, the parking procedure may be interrupted by pressing the SHIFT key. The display shows PARK ABORTED message.

Paper Handling

Paper Paths

The following figure shows the paper path configurations.



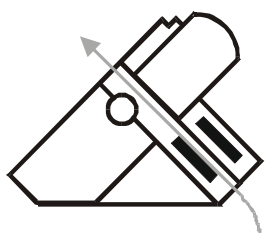
Fanfold Paper Specifications

It is important to use the correct paper for obtaining the best performance. See the information table below:

Loading Mode	Lower Tractor	Upper Tractor	Push-Pull (option)
Width	76 to 432 mm 3 to 17 inches	76 to 432 mm 3 to 17 inches	76 to 432 mm 3 to 17 inches
Length	76 to 609 mm 3 to 24 inches	76 to 609 mm 3 to 24 inches	76 to 609 mm 3 to 24 inches
Thickness	max.0.635 mm 0.025 inches	max. 0.635 mm 0.025 inches	max. 0.3 mm 0.014 inches
Copies	1 + 7	1 + 7	1 + 7
Weight (g/m^2):			
- Original	55 to 150	55 to 150	55 to 150
- Other sheets	45 to 75	45 to 75	45 to 75
- Carbon Paper	35	35	35
	USA 10 (241 x 105 mm)		

Fanfold Paper Loading

Loading Paper Using the Lower Tractor



1. To select the lower tractor paper path, press the PATH key. The display shows:

```
PATH CHANGING
```

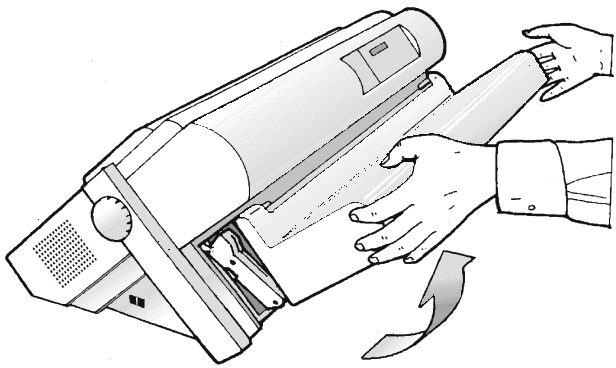
- If the fanfold paper is present in the upper tractor paper path, the printer automatically parks this fanfold before loading the new one. The display shows:

```
PARK: SURE?
```

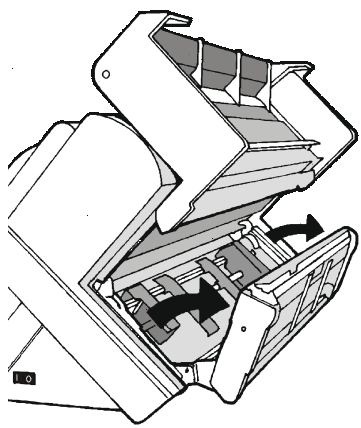
- Tear off the fanfold loaded from the upper tractor paper path to avoid paper jams. Press the PARK key. Then the display shows:

```
LOAD LOWER PUSH
```

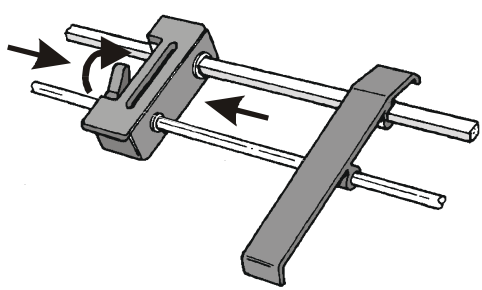
2. Open the tractor area cover turning is upwards and lay it on the top of the printer.



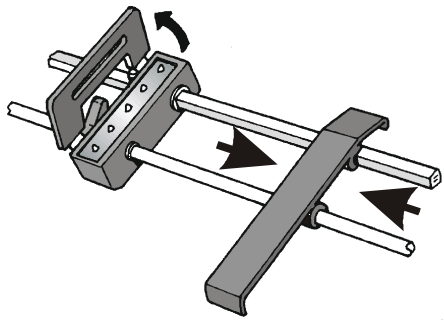
3. Rotate the upper tractor out of the printer.



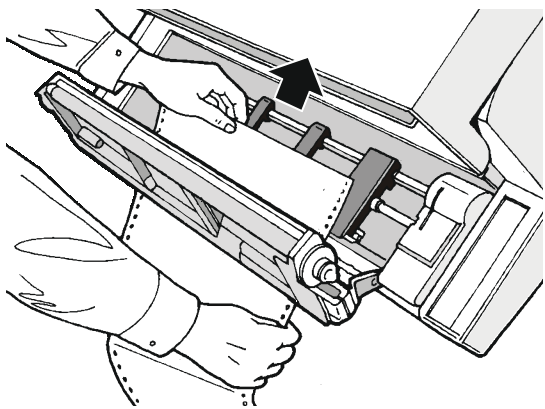
4. Unlock the sprockets of the lower tractor lifting the sprocket levers. Slide the left sprocket to the first printing column.



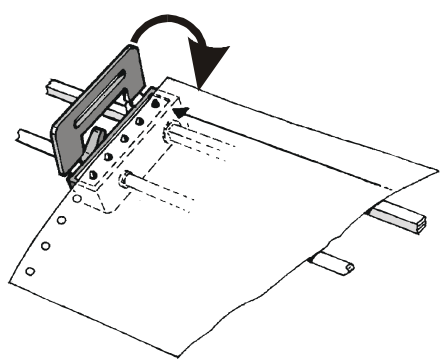
5. Space the paper guides along the tractor bar. Open the sprocket covers of the left and right sprocket



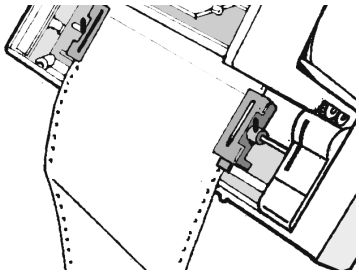
6. Insert the fanfold paper between the lower and the upper tractor.



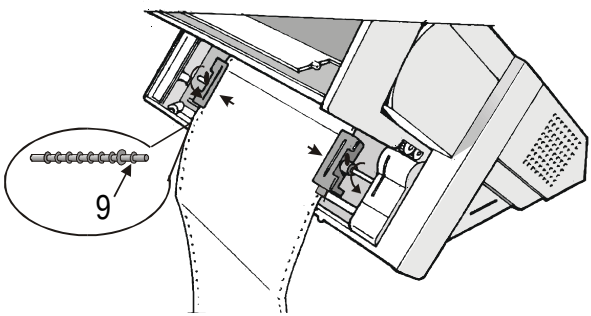
7. Hold the fanfold paper in front of the sprockets and insert the paper perforation on the left sprocket pins and close the sprocket cover.



8. Insert the paper on the right sprocket pins, make sure the paper goes under the paper sensor and close the sprocket cover.

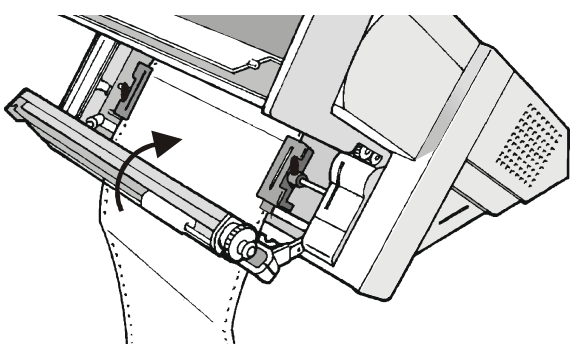


9. Match the left sprocket for the first printing position with the ninth mark and lock it in place. Adjust the right sprocket gently to remove slack from the paper and lock it in place.

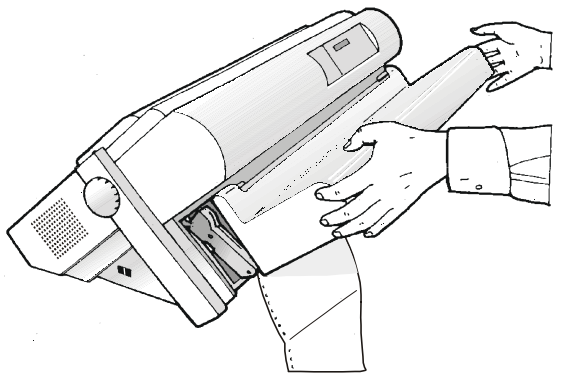


Make sure the paper is not taut.

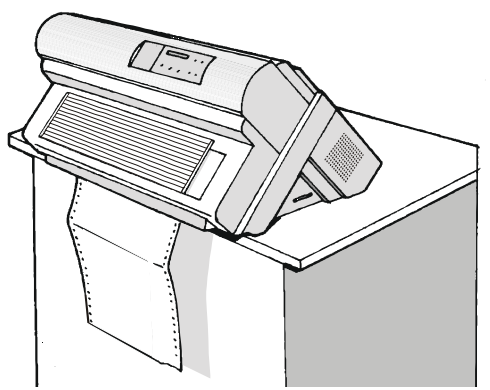
10. Reposition the upper tractor in its initial position until it clicks in place.



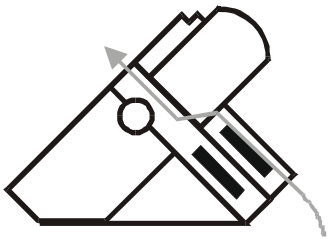
11. Close the tractor area cover. Press the LOAD/FF key to load the paper into the printer.



12. The paper must be loaded as shown in figure.



Loading Paper Using the Upper Tractor



To load paper in this way, it is necessary to install the upper tractor. See before "Upper Push Tractor Installation" section.

1. To select the upper tractor paper path, press the PATH key. The display shows:

```
PATH CHANGING
```

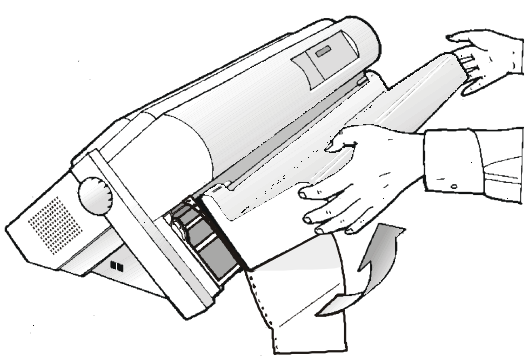
- If fanfold paper is present in the lower tractor paper path, the printer automatically parks this fanfold before loading the new one. The display shows:

```
PARK: SURE?
```

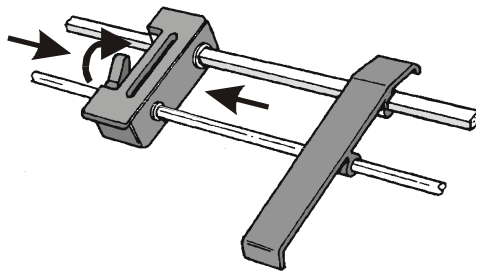
- Tear off the fanfold loaded from the lower tractor paper path to avoid paper jams. Press PARK. Then the display shows:

```
LOAD UPPER PUSH
```

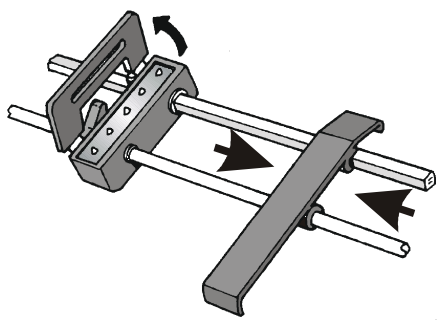
2. Open the tractor area cover turning is upwards and lay it on the top of the printer.



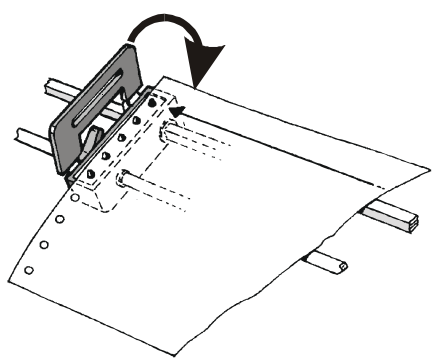
3. Unlock the upper tractor sprockets lifting the sprocket levers. Slide the left sprocket to the first printing column.



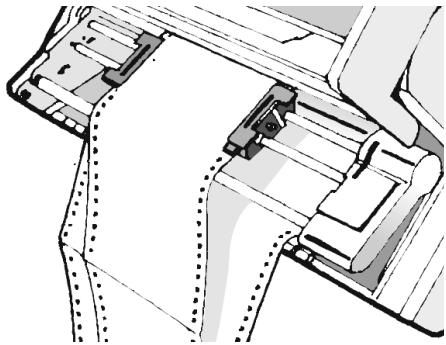
4. Space the paper guides along the tractor bar. Open the sprocket covers of the left and right sprocket.



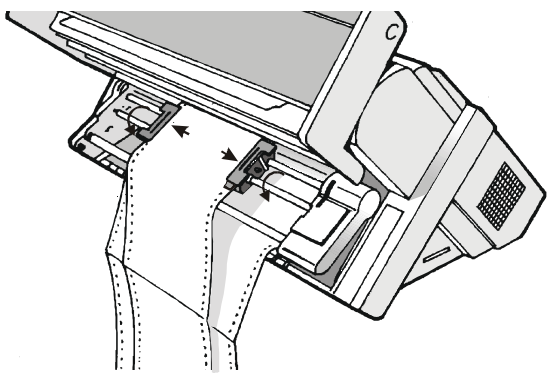
5. Hold the fanfold in front of the sprockets and insert the paper perforation on the left sprocket pins and close the sprocket cover.



6. Insert the paper on the right sprocket pins, make sure the paper goes under the paper sensor and close the sprocket cover.

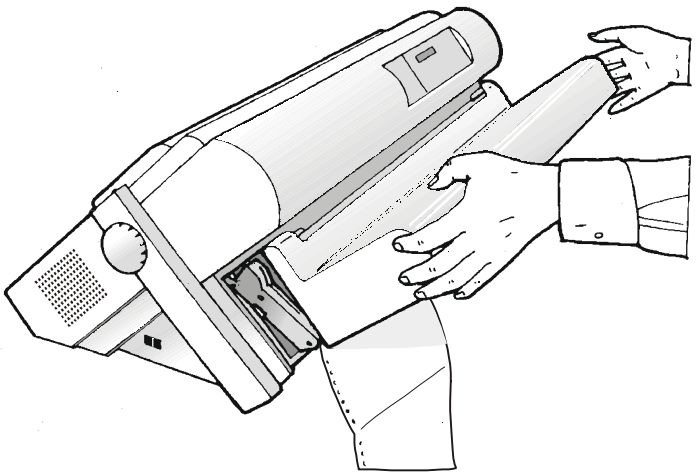


7. Position the left sprocket for printing and lock it in place. Adjust gently the right sprocket to remove slack from the paper and lock it in place.

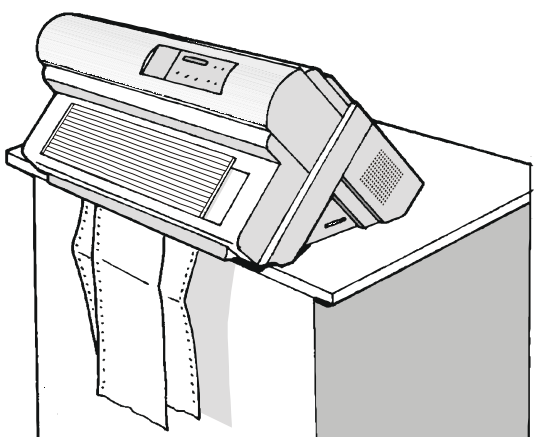


Make sure the paper is not taut.

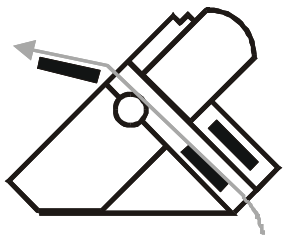
8. Close the tractor area cover. Press the LOAD/FF key to load the paper into the printer.



9. The paper must be loaded as shown in figure.



Loading Paper Using the Lower Push Tractor and the Rear Pull Tractor (option)



For loading paper in this way, it is necessary to install the optional rear pull tractor. See later "Options" section.

With this paper path configuration paper is loaded contemporaneously with the lower front push tractor and the rear pull tractor. In this way it is possible to handle stronger paper.

Once the rear pull tractor is installed, the fanfold paper can be loaded only in push-pull mode.

1. To select the push-pull paper path, press the PATH key. The display shows:

   ```
   PATH CHANGING
   ```

   - If the fanfold paper is present in the upper tractor paper path, the printer automatically parks this fanfold before loading the new one. The display shows:

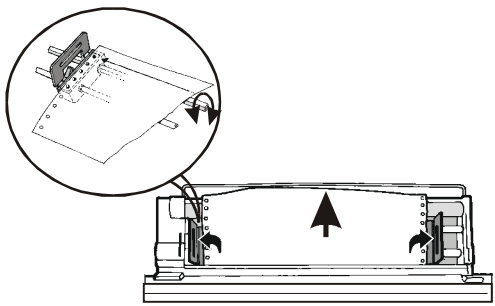
     ```
     PARK: SURE?
     ```

   - Tear off the fanfold loaded from the upper tractor paper path to avoid paper jam. Press the PARK key. Then the display shows:

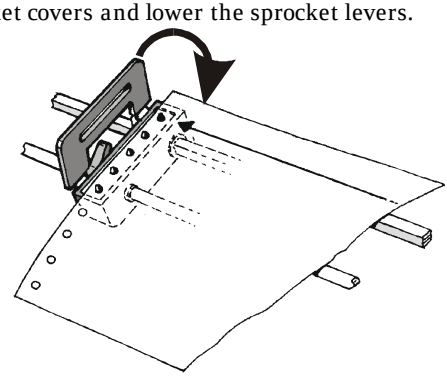
     ```
     LOAD PUSH-PULL
     ```

2. To load the fanfold paper on the lower push tractor, follow the sequence *Loading Paper Using the Lower Tractor* described before.

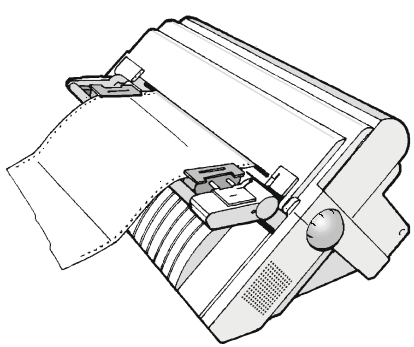
3. Take up the slack of the paper exiting from the rear paper slot and rotate the sprocket bar to align the sprocket pins of the rear tractor with the paper perforation.



4. Lock the sprocket covers and lower the sprocket levers.



5. Press the ON LINE key to confirm that the paper loading is finished. The rear tractor engages.
6. The figure shows the correct paper loading.



Printer Maintenance and Troubleshooting

Cleaning the Printer

Make sure the printer has been turned off for at least 15 minutes before starting any cleaning operations.

Periodic cleaning will help keep your printer in top condition so that it will always provide optimal performance.

- Use a neutral detergent or water solution on a soft cloth to clean dirt and grease from the cabinet of the printer.
- Do not use an abrasive cloth, alcohol, paint thinner or similar agents because they may cause discoloration and scratching.
- Be especially careful not to damage the electronic and mechanical components.

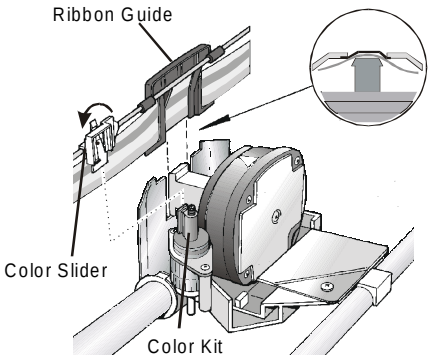
Replacing the Ribbon Cartridge

1. Make sure that the printer is turned off for at least 15 minutes.

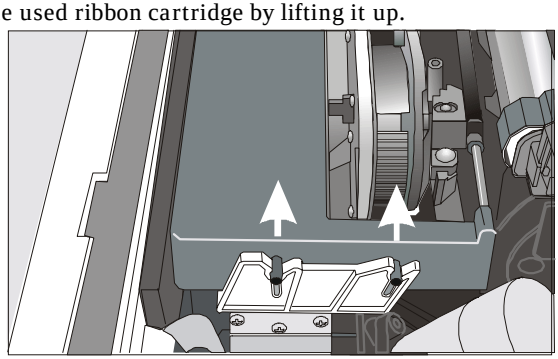
Pay attention to the print head because it becomes hot during operation.

2. Open the top printer cover.

3. Slide the ribbon guide out of the print head. If the color kit is installed on the printer, unlock the white slider pressing and holding the lever on the slider towards the back of the printer and contemporaneously lifting the slider off the color mechanism.



4. Remove the used ribbon cartridge by lifting it up.



Now, you are ready to insert the new ribbon cartridge. See before "Ribbon Cartridge Installation".

Printing the Self Test

If you need to know any printer setting, and to check if the printer is working well, print the self-test.

Proceed as follows:

1. Press the ON LINE key and keep it pressed until the `RELEASE KEY` message is displayed.
2. When you release the ON LINE key, the printer starts the self-test printout.
3. To stop the self-test printing, press the ON LINE key again. The printer is offline.

Error Handling

When an error condition occurs:

- the printer is disabled;
- the first message on the display indicates the error, while the second message gives indicates more details concerning the error conditions.

Press always the ON LINE key to reset the error condition.

Error Message Description

Messages	Indication	Solution
A.G.A NOT OPER ADJUST THE GAP	The automatic gap adjustment (A.G.A) is not enabled.	Press the ON LINE key to reset the error condition. Adjust the print head gap to a fixed distance. Select the print head fixed gap adjustment function in the *Program Setup*. • Press the PROGRAM key when the printer is disabled (READY indicator unlit) to enter the *Program Setup*. • Press the ↓ key until the USER MACRO function is displayed. Press the → key until the desired macro is displayed (MACRO#*x*). Press the → key to enter the macro parameters. Press the ↓ key until the FIXED GAP parameter is displayed. Press the → or ← keys to select the fixed gap adjustment values. From FIXED GAP 1 (simple fanfold paper) to FIXED GAP 4 (multipart fanfold paper).
BUFFER OVERFLOW CHARACTER LOST	An overflow condition occurs in the buffer (if the serial interface is selected).	Turn the printer off and on again, or press the PROGRAM and ON LINE key successively and the buffer will be cleared.
CUTTER ERROR CUT NOT ALLOWED	An error occurred with the optional cutter	Turn the printer off and on again. If the error is not solved, call the Customer Support.

Messages	Indication	Solution
DATA SET OFF	The DSR Signal is not connected to the printer and is not ready for data transfer (if the serial interface is selected). This condition may happen in a remote connection (via modem) and the DSR (DATA SET READY) signal is missing.	Press the ONLINE key to reset the error condition.
NVM CHANGE	If this error is displayed during the printer power on, an NVM error condition occurs.	The REMOVE PAPER message is displayed, if the paper is present in the printer, then the PRESS A KEY message appears. Press and hold a key pressed during 2 sec. then NVM CHANGED message is displayed. Now the NVM has been changed.
INTERLOCK ERROR CHECK INSERTION	Neither the rear tractor nor the tractor cover are installed on the printer.	Install the rear tractor or the tractor cover on the printer.
NO PATH AVAILABLE	An electromechanical failure occurs in the lower or upper tractor paper paths.	Call Service.
PAPER JAM CHECK ALL PATHS	A paper jam error condition occurs in the paper path	Check all the paper paths and remove the jammed paper. Press the ON LINE key to reset the error condition.
PRINT INTEGRITY	Anomalous print out because of a possible print carriage blocking	☞ Do not move the platen knob. Press the ONLINE key to reset the error condition.
RIBBON BLOCKED CHECK RIBBON	The ribbon of the cartridge is blocked	Check that the ribbon is correctly inserted. Turn the tension knob to make sure that the ribbon is not jammed. Press the ONLINE key to reset the error condition.

Options

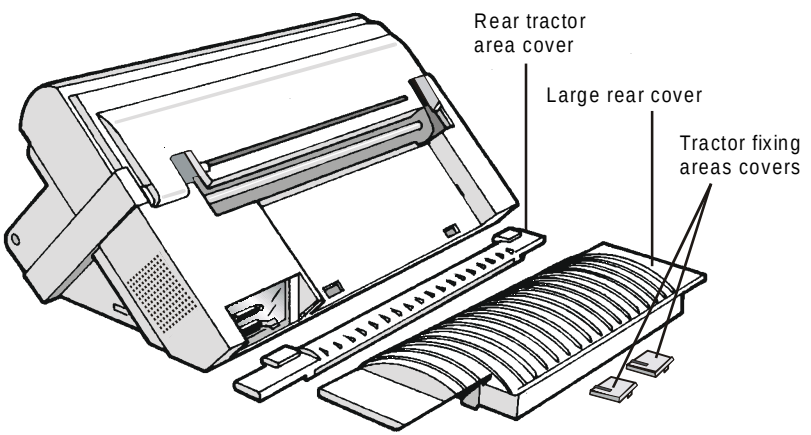
The Rear Pull Tractor

The rear pull tractor is useful to handle particularly heavy paper.

Installing the Rear Pull Tractor

1. Turn the printer off.

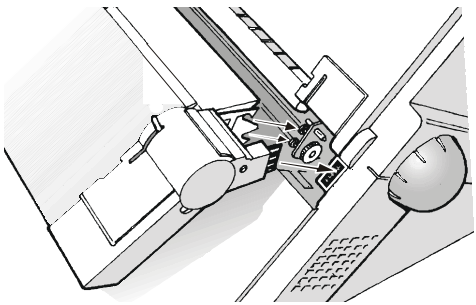
2. Remove the large rear cover, the rear tractor area cover and the two small tractor fixing area covers.



Keep the covers in a safe place, as they must be reinstalled if the rear tractor is removed.

3. Replace the large rear cover.

4. Insert the rear pull tractor as shown in figure and the corresponding fixing area covers (with the slot) as shown in figure.

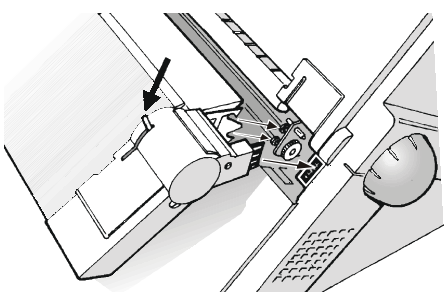


5. Turn the printer on.

The paper can be loaded in push-pull mode. See before "Loading Paper Using the Lower Push Tractor and the Rear Pull Tractor".

Removing the Rear Pull Tractor

1. Push the lever on the rear pull tractor down and lift the tractor out of the printer.



2. Insert the rear tractor cover and make sure that the interlock connector is correctly inserted.

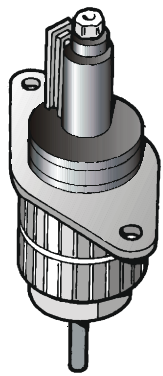
If the cover is not inserted, the printer is blocked.

Color Kit

This printer can print not only in black but also in different colors. For color printing you need the optional color kit shown in the figure below.

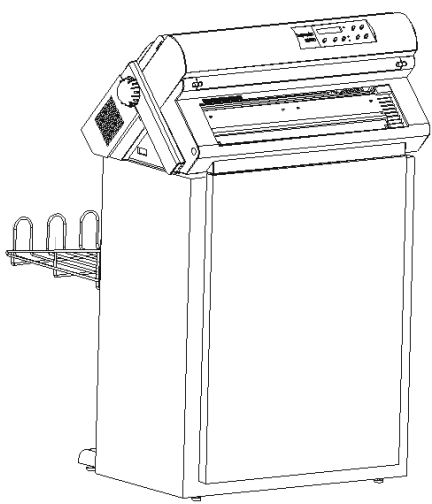
The color kit is installable by an authorized technician.

The color or the black ribbon 'Long Life' cartridge can be used when the color kit is installed.



Pedestal

For better paper handling, use the printer pedestal:



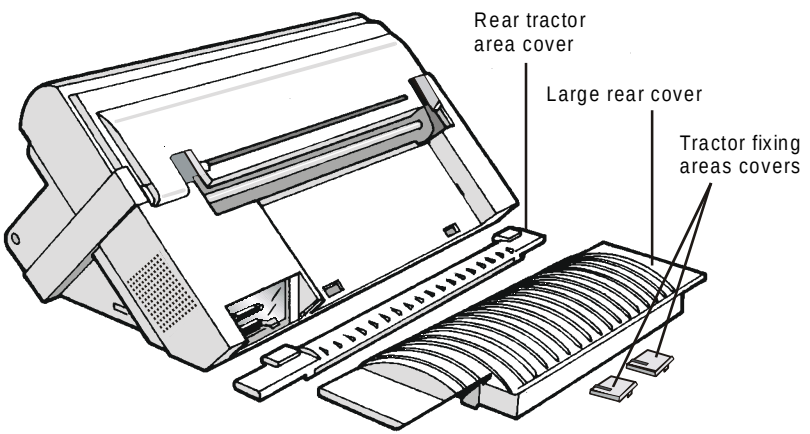
The Cutter

The cutter option allows to cut the paper automatically.

Installing the Cutter

The printer must be turned off while installing the cutter option. If you install the cutter option while the printer is powered on, the printer may be damaged.

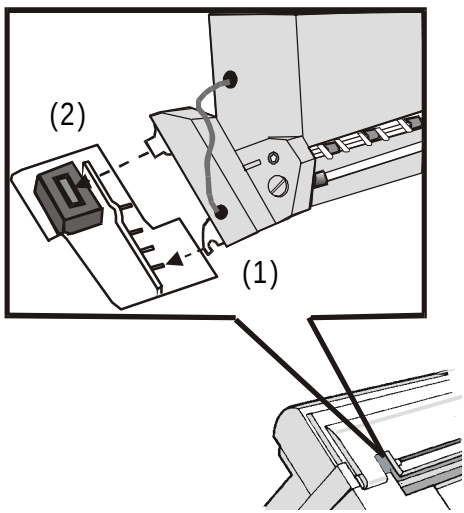
1. Remove the large rear cover, the rear tractor area cover and the two small tractor fixing area covers.



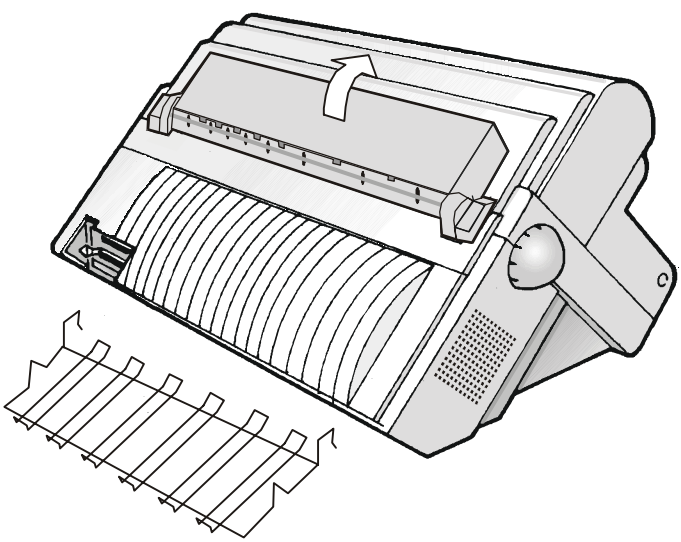
Keep the covers in a safe place, as they must be reinstalled if the rear tractor is removed.

2. Replace the large rear cover.

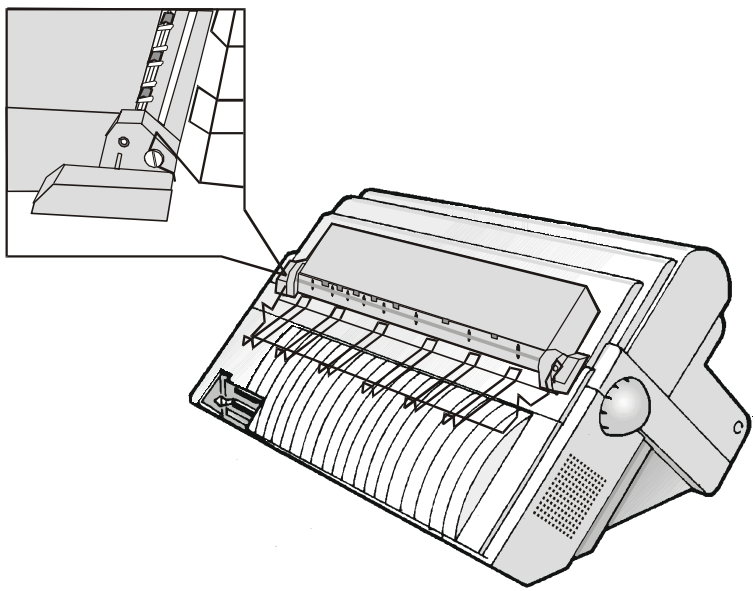
3. Hook the cutter onto the lower pins (1) on both sides inside the tractor fixing areas, and make sure that the connector (2) is correctly inserted.



4. Lower the cutter so that it lays down on the printer.



5. Hook the paper grid onto the cutter screws on both sides as shown in figure.



Printer Specifications

Printing Characteristics

Print Head	
Matrix	18 pins - 0.3 mm
Print Head Life	700 mil characters (draft)
Print Head Technology	ER18BMR moving ruby two parallel rows

Print Speed (cps)				
	Draft		Quality	DP Text
10 cpi	Normal	1100	LQ 240	480

Throughput (pages/hour)				
ECMA 132	Draft		Quality	DP Text
10 cpi	Normal	700	LQ 360	590
	High Speed	750		

Print Matrix (horizontal x vertical)				
	HS Draft	Draft	LQ	DP Text
10 cpi	9 x 9	12 x 9	20 x 18	20 x 9
12 cpi		10 x 9	20 x 18	20 x 9
15 cpi		10 x 9	20 x 18	20 x 9
17.1 cpi		12 x 9	20 x 18	20 x 9
20 cpi		12 x 9	20 x 18	20 x 9

Print Density (characters per inch)	
Normal	10 - 12 - 15 - 17.1 - 20

Line length (number of characters)			
10 cpi	136	17.1 cpi	233
12 cpi	163	20 cpi	272
15 cpi	204		

Vertical Spacing
6, 8, 12 LPI
Basic: 3, 4, 6, 8, 12 lines/30 mm Incremental: n/72", n/216", n/144"

Print Styles
Draft - Courier- OCR B - Gothic - OCR A - DP Text

Print Attributes
Sub-superscript, Underline, Overscore, Italics, Emphasized, Double Strike, Shadow, Enlarged, Compressed

Graphic Resolution (dots per inch)	
Horizontal	60, 72, 80, 90, 120, 144, 240
Vertical	72, 144

Characters Sets	
International character sets ASCII	
Standard PC IBM Character Sets	CS1 and CS2
EPSON National Variations	USA, France, Germany, United Kingdom, Denmark-1, Sweden, Italy, Spain-1, Japan, Norway, Denmark-2, Spain-2, Latin America
IBM and EPSON Character Sets	USA (CP437), Greek (CP437-G), Multilingual (CP850), Greek (CP851), Eastern Europe (CP852), Turkish (CP 853), Cyrillic (CP855), Turkish (CP857), Euro PC Multilingual (CP858), Portugal (CP860), Hebrew (CP862), Canada/France (CP863), Arabic (CP864), Denmark/Norway (CP865), Russian (CP866), Turkish2 (CP867), OCR-A (CP876), OCRB (CP877), GOST, TASS
ISO Character Sets	8859/1 (Latin1), 8859/2 (Latin2), 8859/3 (Latin3), 8859/4 (Latin4), 8859/5 (Latin/Cyrillic), 8859/6 (Latin/Arabic), 8859/7 (Latin/Greek), 8859/8 (Latin/Hebrew), 8859/9 (Latin5). 8859/15 (Latin9)

Bar Codes
EAN-8, EAN-13, UPC-A, UPC-E, UPC/EAN 2, UPC/EAN 5, Code GP, C25-3BAR, Code BCD, MSI Plessey, Code 11, Code 93, 2/5 Bidirectional, 2/5 Interleaved, 2/5 Industrial, 2/5 Matrix, Code 39, Codabar, Code 128, Postnet

Paper Handling

Base Configuration			
1	LOWER PUSH TRACTOR		
	Fanfold width:	76 to 432 mm	(3 to 17 inches)
	Copies:	1 original + 7 copies	Max. thickness 0, 635 mm (0.025 inches)
1	UPPER PUSH TRACTOR		
	Fanfold width:	76 to 432 mm	(3 to 17 inches)
	Copies:	1 original + 7 copies	Max. thickness 0, 635 mm (0.025 inches)

With the Pull Tractor Option			
Push-Pull Feeding			
Front fanfold insertion with lower tractor in front push mode and rear tractor in pull mode.			
2	PUSH-PULL TRACTORS (optional)		
	Fanfold width:	76 to 432 mm	(3 to 17 inches)
	Copies:	1 original + 7 copies	Max. thickness 0,3 mm (0.014 inches)

Emulations	
- EPSON FX 1170	- IBM Proprinter XLIII
- EPSON EX 1000	- IBM Personal Printer 2381

Standard Functions
• Automatic print head gap adjustment (AGA)
• Automatic paper path switching via operator panel or S/W commands
• Paper parking
• Plug & Play capability
• Bar Code printing
• Automatic fanfold positioning for tear-off
• Setting and storage of paper format and print conditions for each paper path in the NVM memory

Physical and Electrical Characteristics

Interfaces	
Parallel	Shielded Centronics Compatible Bi-directional (IEEE-1284) nibble and byte modes 7/8 data bits, max .100 KBPS
	Receive Buffer: max. 64 Kbytes
Serial	Shielded RS-232/C and RS-422/A
	Baud Rate: 300 to 38400 bauds, 7/8 data bits, DTR & XonXoff flow, Break function
	Receive Buffer: max. 64 Kbytes
Automatic interface switching	

Reliability	
MTBF	Mean Time between failure: 10000 hours at 25% D.C.
MTTR	Mean Time To Repair: 30 minutes
Workload	60,000 pages/month (ECMA 132 - 4 hours for 20 days)
Printer Life	5 years or 10000 hours @ 25%
Duty Cycle	Operating: no limitations

Power Supply	
UNIVERSAL	From 90 to 244 VAC
Power Output	Max. 215 W
Power Consumption	Standby: less than 30 W

Noise Level
Draft mode: 58.5 dBA
LQ mode: 55.9 dBA
LQ Quiet mode: 54 dBA

Environment Conditions		
Storage Conditions		
	Temperature	-40° to 50° C
	Relative Humidity	10%t o 90% RH (non condensing)
Operating Conditions		
	Temperature	10° to 38° C
	Relative Humidity	10 % to 90 % RH (non condensing)
Paper Conditions		
	Temperature Relative Humidity	16° to 24° C 40% to 60% RH (non condensing)

Physical dimensions	
Height	310 mm (12,21 inches)
Width	665 mm (26,18 inches)
Depth	390 mm (15,35 inches)
Weight	20 kg (44,15 lbs)

Consumables and Options

- Black ribbon cartridge (15 million characters)
- Black ribbon 'Long Life' cartridge (20 million characters)
- Color ribbon cartridge (2 million characters for each band)
- Additional pull tractor unit for push-pull fanfold handling
- Color Kit
- Cutter
- Pedestal for printer

Standards
ESD IEC 801-2, CE Mark
UL 1950;CSA 22.2 n.950; FCC rules part 15, subpart J, class B
NEWKO-TSE (74-SEX) 203/92; EN 60950; IEC 950
VFG 243/91; VFG 46/92; VDE 875 cl.B; CISPR 22/EN 55022 – class B
R.P.M. (cert. By VDE)
ISO 7779;ISO 9296
ECMA 8, 11,132

Environment
ISO 1043, ISO 1629, DIN 54840 on PLASTIC MARKING
Environment Protection Agency EPA2 energy star program complying
Design to disassembly: recycling of packaging
Packaging as according to German law